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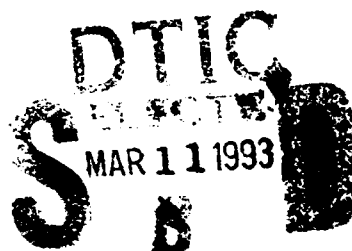


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Wetlands Research Program Technical Report WRP-SM-2

## Bibliography of Remote Sensing Techniques Used in Wetland Research

by Janet L. Lampman



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# **Bibliography of Remote Sensing Techniques Used in Wetland Research**

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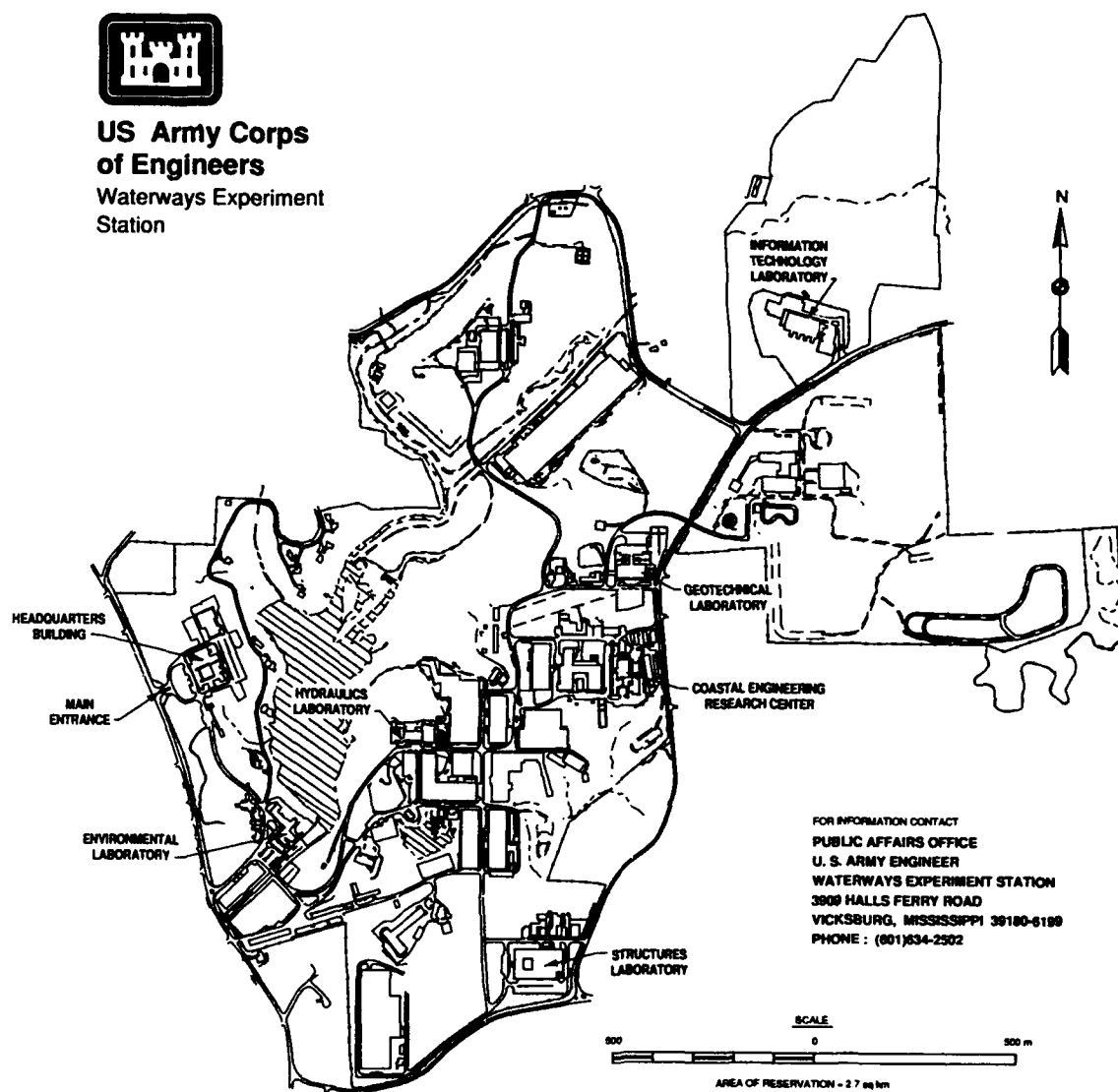
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# Remote Sensing Applications for Wetlands

## *Bibliography of Remote Sensing Techniques Used in Wetland Research (TR WRP-SM-2)*

### **ISSUE:**

Remote sensing techniques have proven to be cost-effective methods for inventorying the present condition of a wetland, and for detecting changes in a wetland using historical remote sensing data. The extensive research conducted in this area is valuable when remote sensing applications are being considered for use in further wetland research.

### **RESEARCH:**

The Bibliography of Remote Sensing Techniques Used in Wetland Research provides listings of some of the published works available for reference. This bibliographical search was conducted as part of a WRP work unit on characterizing changes to wetlands. The results were used to guide research efforts on the use of remote sensing technology for wetland change detection and assessment.

### **SUMMARY:**

The bibliography will aid in literature reviews conducted on the past uses of remote sensing techniques in wetland research. All of the citations are in three listings organized by wetland type, sensor type, and author.

### **AVAILABILITY OF REPORT:**

The report is available on Interlibrary Loan Service from the U.S. Army Engineer Waterways Experiment Station (USAEWES) Library, telephone (601) 634-2355.

To purchase a copy, call the National Technical Information Service (NTIS) at (703) 487-4650. For help in identifying a title for sale, call (703) 487-4780.

NTIS report numbers may also be requested from the WES librarians.

### **About the Author:**

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# Contents

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|   |      |
|---|------|
| Preface . . . . .   | iv   |
| 1—Introduction . . . . .                                  | 1    |
| 2—Bibliography Organization . . . . .                     | 2    |
| Appendix A: Citations Organized by Wetland Type . . . . . | A-1  |
| Tidal Salt Marsh . . . . .                                | A-1  |
| Tidal Freshwater Marsh . . . . .                          | A-17 |
| Mangrove . . . . .  | A-31 |
| Inland Freshwater Marsh . . . . .                         | A-32 |
| Northern Peatland . . . . .                               | A-45 |
| Southern Deepwater Swamp . . . . .                        | A-46 |
| Riparian Wetland . . . . .                                | A-48 |
| Submerged Aquatic Vegetation . . . . .                    | A-53 |
| Regional Wetland Mapping . . . . .                        | A-54 |
| General Information . . . . .                             | A-59 |
| Unknown Wetland Type . . . . .                            | A-63 |
| Appendix B: Citations Organized by Sensor Type . . . . .  | B-1  |
| Black-and-White Photography . . . . .                     | B-1  |
| True-Color Photography . . . . .                          | B-4  |
| False-Color Infrared Photography . . . . .                | B-7  |
| Landsat Multispectral Scanner (MSS) . . . . .             | B-18 |
| Landsat Thematic Mapper (TM) . . . . .                    | B-36 |
| Satellite Pour l'Observation de la Terre (SPOT) . . . . . | B-41 |
| Radar . . . . .   | B-43 |
| Aircraft Multispectral . . . . .                          | B-46 |
| Ground-based Radiometer . . . . .                         | B-50 |
| General Information . . . . .                             | B-52 |
| Unknown Sensor Type . . . . .                             | B-57 |
| Other Sensor Types . . . . .                              | B-65 |
| Appendix C: Citations Organized by Author . . . . .       | C-1  |

# Preface

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The work described in this report was authorized by the Headquarters, U.S. Army Corps of Engineers (HQUSACE), as part of the Stewardship and Management Task Area of the Wetlands Research Program (WRP). The work was performed under Work Unit 32762, "Techniques for Characterizing Changes to Wetlands." Principal Investigator was Mr. Mark R. Graves of the Environmental Laboratory (EL), U.S. Army Engineer Waterways Experiment Station (WES). Ms. Denise White (CECW-ON) was the HQUSACE WRP Technical Monitor for this work.

Mr. Jesse A. Pfeiffer, Jr. (CERD-C), was the WRP Coordinator at the Directorate of Research and Development, HQUSACE; Dr. William L. Klesch (CECW-PO) served as the WRP Technical Monitor's Representative; Dr. Russell F. Theriot, WES, was the Wetlands Program Manager. Mr. James W. Teaford, Wetlands Branch, EL, was the Task Area Manager.

This report was prepared by Ms. Janet L. Lampman, under the general supervision of Mr. H. Wade West, Chief, Environmental Characterization Branch, Mr. J. L. Decell, Acting Chief, Natural Resources Division, and Dr. John Harrison, Director, EL, and under the direct supervision of Dr. M. Rose Kress.

At the time of publication of this report, Director of WES was Dr. Robert W. Whalin. Commander was COL Leonard G. Hassell, EN.

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# 1 Introduction

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The Wetlands Research Program (WRP) is a critical part of the U.S. Army Corps of Engineers' commitment to wetland research. The WRP is divided into five task areas, each with its own specific mission in an important part of wetland research. A work unit under the Stewardship and Management Task Area, "Techniques for Characterizing Changes to Wetlands," is investigating the application of remote sensing technology for detecting changes in wetland environments.

This report documents a bibliographical search conducted as part of the "Techniques for Characterizing Changes to Wetlands" work unit on applications of remote sensing techniques in wetland research. The search was conducted as the initial step in examining the evolution of this technology in terms of sensor and platform development and the refinement of data processing and analysis techniques. It is a nonexhaustive search of publications from 1968 to 1990. Results were used to guide research efforts on the use of remote sensing technology for wetland change detection and assessment. The search was conducted through the WES Research Library.

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## 2 Bibliography Organization

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The citations are presented in three appendixes. Appendix A organizes citations by the following wetland types: (1) tidal salt marsh; (2) tidal freshwater marsh; (3) mangrove; (4) inland freshwater marsh; (5) northern peatland; (6) southern deepwater swamp; (7) riparian wetlands;<sup>1</sup> (8) submerged aquatic vegetation; (9) regional wetland mapping; and (10) general information. Citations that could not be categorized based on the available information were placed in the group "Unknown Wetland Type."

Appendix B groups the citations by sensor type: (1) black-and-white photography; (2) true-color photography; (3) false-color infrared photography; (4) Landsat Multispectral Scanner (MSS); (5) Landsat Thematic Mapper (TM); (6) Satellite Pour l'Observation de la Terre (SPOT); (7) radar; (8) aircraft multispectral; (9) ground-based radiometer; (10) general information; and (11) other. Citations that could not be categorized based on the available information were placed in the group "Unknown Sensor Type."

Appendix C organizes the citations alphabetically by author. Within Appendixes A and B, a citation may appear in more than one category. The numbers of citations in each category in each appendix are summarized in Table 1.

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<sup>1</sup> Mitsch, W. J., and Gosselink, J. G. 1986. *Wetlands*. Van Nostrand Reinhold, New York.

**Table 1**  
**Number of Citations by Category**

| Category                                   | Number of Citations |
|--|---------------------|
| <b>Appendix A—Wetland Types</b>            |                     |
| Tidal salt marsh . . . . .                 | 154                 |
| Tidal freshwater marsh . . . . .           | 137                 |
| Mangrove . . . . .                         | 9                   |
| Inland freshwater marsh . . . . .          | 128                 |
| Northern peatland . . . . .                | 8                   |
| Southern deepwater swamp . . . . .         | 13                  |
| Riparian wetland . . . . .                 | 43                  |
| Submerged aquatic vegetation . . . . .     | 9                   |
| Regional wetland mapping . . . . .         | 41                  |
| General information . . . . .              | 46                  |
| Unknown wetland types . . . . .            | 77                  |
| <b>Appendix B—Sensor Types</b>             |                     |
| Black-and-white photography . . . . .      | 28                  |
| True-color photography . . . . .           | 27                  |
| False-color infrared photography . . . . . | 105                 |
| Landsat MSS . . . . .                      | 169                 |
| Landsat TM . . . . .                       | 47                  |
| SPOT . . . . .                             | 13                  |
| Radar . . . . .                            | 27                  |
| Aircraft multispectral . . . . .           | 33                  |
| Ground-based radiometer . . . . .          | 13                  |
| General information . . . . .              | 54                  |
| Unknown sensor type . . . . .              | 76                  |
| Other sensor type . . . . .                | 25                  |
| <b>Appendix C—By Author . . . . .</b>      | <b>494</b>          |

# Appendix A

## Citations Organized by Wetland Type

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### Tidal Salt Marsh

Ackleson, S. G., Klemas, V., McKim, H. L. et al. 1985. A comparison of SPOT Simulator data with Landsat MSS imagery for delineating water masses in Delaware Bay, Broadkill River, and adjacent wetlands. *Photogrammetric Engineering and Remote Sensing*. 51(8): 1123-1129.

Akhavi, M. S., and Madjedi, M. 1975. Application of ERTS-1 imagery to water and marine resources in Iran. *Proceedings of the seminar on remote-sensing applications; Bangkok, Thailand. Economic and Social Community, Asia and Pacific Mineral Resources Section*. 92-100.

Anderson, R. R. 1972. Applications of high-altitude remote sensing to coastal zone ecological studies. *Operational remote sensing: an interactive seminar to evaluate current capabilities; February 1-4, 1972; Houston, Texas. American Society of Photogrammetry*. 191-195.

Anderson, R., Alsid, L., and Carter, V. 1975. Comparative utility of Landsat-1 and Skylab data for coastal wetland mapping and ecological studies. *Proceedings of the NASA earth resources survey symposium; June 1975. Houston, Texas: Lyndon B. Johnson Space Center, National Aeronautics and Space Administration*. 469-474.

Anderson, R. R., Carter, V., and McGinness, J. 1973. Applications of ERTS data to coastal wetland ecology with special reference to plant community mapping and typing and impact of man. *Third Earth Resources Technology Satellite-1 symposium; December 10-14, 1973; Washington, DC*. 1225-1242.

Anderson, R. R., Carter, V., and McGinness, J. 1973. Mapping Atlantic coastal marshlands, Maryland, Georgia, using ERTS-1 imagery. *Symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland*. 603-613.

- Anderson, R. R., Carter, V., and McGinness, J. 1974. ERTS-1 investigation of wetlands ecology. Washington, DC: The American University.
- Arp, G. K. 1975. The rationale for attempting to define salt marsh mosquito-breeding areas in Galveston County by remote sensing the associated vegetation. Proceedings of the NASA Earth Resources Survey Symposium; June 9-12, 1975. Houston, Texas: National Aeronautics Space Administration. 289-299.
- Baker, S. 1985. Land use and land cover classification of the North Carolina Barrier Islands: Level 3. Raleigh, North Carolina: North Carolina State University.
- Bartlett, D. S. 1979. Spectral reflectance of tidal wetland plant canopies and implications for remote sensing. Doctoral dissertation. Newark, Delaware: University of Delaware.
- Bartlett, D. S. 1982. Remote sensing of tidal wetlands: mapping and beyond. Oceans '82 conference record: industry, government, education, partners in progress; Washington, DC. New York: IEEE. 458-463.
- Bartlett, D. S., and Johnson, R. W. 1985. Remote sensing for ecological assessment of wetlands. Eighth biennial international estuarine research conference; July 28, 1985. Durham, New Hampshire, 7A.
- Bartlett, D. S., and Klemas, V. 1979. Assessment of tidal wetland habitat and productivity. Proceedings of the thirteenth international symposium on remote sensing of the environment; April 23-27, 1979; Ann Arbor, Michigan. Environmental Research Institute of Michigan. 693-701.
- Bartlett, D. S., and Klemas, V. 1979. Evaluation of remote sensing techniques for surveying coastal wetlands. Newark, Delaware: University of Delaware.
- Bartlett, D. S., and Klemas, V. 1980. Quantitative assessment of tidal wetlands using remote sensing. Environmental Management. 4(4): 337-345.
- Bartlett, D. S., and Klemas, V. 1981. In situ spectral reflectance studies of tidal wetland grasses. Photogrammetric Engineering and Remote Sensing. 47(12): 1695-1703.
- Bartlett, D. S., Klemas, V., Chrichton, O. W. et al. 1976. Low-cost, aerial photographic inventory of tidal wetlands. Newark, Delaware: University of Delaware, College of Marine Studies, Center for Remote Sensing.



Bartlett, D. S., Klemas, V., Hamilton, P. et al. 1979. Quantitative assessment of emergent *Spartina alterniflora* biomass in tidal wetlands using remote sensing. Proceedings of workshop on wetland and estuarine processes and water quality modeling; June 18-20, 1979; New Orleans, Louisiana. New York: Plenum Publishing.

Bartlett, D. S., Klemas, V., Rogers, R. H. et al. 1979. Variability of wetland reflectance and its effect on automatic categorization of satellite imagery. Technical papers of the 1977 annual ASP/ACSM annual meeting; February 27 - March 5, 1977; Washington, DC. Falls Church, Virginia: American Society of Photogrammetry.

Bates, A. L. 1989. Low level remote sensing of aquatic weeds. Proceedings of workshop on management of aquatic weeds and mosquitoes in impoundments; March 14-15, 1989; University of North Carolina at Charlotte. Raleigh, North Carolina: Water Resources Research Institute of the University of North Carolina: 133-136.

Baumann, R. H., and Adams, R. D. 1981. Remote sensing as a tool in determining probable impacts of flood control and navigation structures on wetland restoration in the lower Atchafalaya system. Sixth biennial international estuarine research conference, November 1-5, 1981; Gleneden Beach, Oregon. 267.

Benton, A. R., Jr., Blanchard, A. J., and Newton, R. W. 1983. Multifrequency radar interpretation techniques applied to the coastal zone. Technical papers of the 1983 ACSM-ASP fall convention; September 19-23, 1983; Salt Lake City, Utah. 157-166.

Benton, A. R., Jr., Clark, C. A., and Snell, W. W. 1980. Galveston Island - a changing environment. College Station, Texas: Texas A & M University.

Benton, A. R. Jr., Shell, W. W., and Clark, C. A. 1979. Monitoring man's impact in the coastal zone. Joint Proceedings of the ASP/ACSM Fall Technical Meeting; September 17-20, 1979; Sioux Falls, South Dakota. Falls Church, Virginia: American Congress on Surveying and Mapping. 237-250.

Boylan, M. 1978. Use of remote sensing for land use policy formulation: semiannual progress report: June - November, 1977. East Lansing, Michigan: Michigan State University.

Boylan, M. 1980. Use of remote sensing for land use policy formulation: annual progress report: June 1978 - May 1979. East Lansing, Michigan: Michigan State University.

Bradfield, G. E., and Campbell, A. 1986. Vegetation-elevation correlation in two dyked marshes of northeastern Vancouver Island: a multivariate analysis. Canadian Journal of Botany. 2487-2494.

Brannon, D. P., and Irish, J. 1985. Satellite remote sensing and geographic information systems applied to biogeochemical flux estimates. Biennial International Estuarine Research Conference Durham, NH (USA) 28 Jul.

Browder, J. A., May, L. N., Rosenthal, A. et al. 1988. Utilizing remote sensing of Thematic Mapper data to improve our understanding of estuarine processes and their influence on the productivity of estuarine-dependent fisheries. Baton Rouge, Louisiana: Center for Wetland Resources, Louisiana State University; 1988.

Browder, J. A., May, L. N., Jr., Rosenthal, A. et al. 1989. Modeling future trends in wetland loss and brown shrimp production in Louisiana using Thematic Mapper imagery. Remote Sensing of Environment. 45-59; 1989.

Butera, M. K. 1979. A technique for the determination of Louisiana marsh salinity zones from vegetation mapped by multispectral scanner data: a comparison of satellite and aircraft data. National Aeronautics and Space Administration.

Butera, M. K. 1981. Computer-implemented remote sensing techniques for measuring coastal productivity and nutrient transport systems. Proceedings of the fifth annual William T. Pecora memorial symposium on remote sensing: satellite hydrology; June 10-15, 1979; Sioux Falls, South Dakota. 522-532.

Butera, M. K. 1985. Remote sensing of coastal wetlands: where is research headed? Integration of remote sensed data in geographic information systems for processing of global resource information: proceedings of a working group meeting; May 29-31, 1985; Washington, DC. Centre for Earth Resource Management Applications. 1-11.

Butera, M. K., and Seyfarth, B. R. 1981. A determination of marsh detrital export from Landsat MSS data - a function of transport distance and water body characterization. P. G. Buroff, and D. B. Morrison, editors. Seventh international symposium on machine processing of remotely sensed data with special emphasis on range, forest, and wetlands assessment; June 23-26, 1981; Purdue University. West Lafayette, Indiana: Laboratory for Applications of Remote Sensing, Purdue University. 240-253.

Carter, V. Applications of remotely sensed data to wetland studies. J. J. Rycroft, and A. C. Strickland, editors. COSPAR: Space Research. Washington, DC: US Geological Survey. 19-23.

Carter, V. 1976. Computer mapping of coastal wetlands. Washington, DC: US Geological Survey.

Carter, V. 1977. Coastal wetlands: the present and future role of remote sensing. Proceedings of the eleventh international symposium on remote sensing of environment; April 25-29, 1977. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 301-323.

Carter, V. P., and Anderson, R. R. 1972. Interpretation of wetlands imagery based on spectral reflectance characteristics of selected plant species. Proceedings of the 38th annual meeting of American Society of Photogrammetry; March 12-17, 1972; Washington, DC. Falls Church, Virginia: American Society of Photogrammetry. 580-595.

Carter, V., and Anderson, R. R. 1976. Coastal wetland mapping in the central Atlantic region. Washington, DC: US Geological Survey.

Carter, V., and Anderson, R. R. 1976. Tidal effects in coastal wetlands. Washington, DC: US Geological Survey.

Carter, V., Anderson, R. R., McGinness, J. W., Jr. 1976. Wetland classification and mapping along the South Atlantic Coast. Washington, DC: US Geological Survey.

Carter, V., McGinness, J. W., Jr., and Anderson, R. R. 1976. Wetland mapping in a large tidal brackish-water marsh in Chesapeake Bay. Washington, DC: US Geological Survey.

Carter, V., and Schubert, J. 1974. Coastal wetlands analysis from ERTS MSS digital data and field spectral measurements. Proceedings of the ninth international symposium on remote sensing of environment; April 15-19, 1974. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1241-1260.

Cartmill, R. H. 1974. Evaluation of satellite remote sensing and automatic data techniques for characterization of wetlands and coastal marshlands. Bay St. Louis, Mississippi: Earth Resources Laboratory, National Space Technology Laboratories.

Cibula, W. G. 1972. Application of remotely sensed multispectral data to automated analysis of marshland vegetation. Bay St. Louis, Mississippi: Earth Resources Laboratory, Mississippi Test Facility.

Conrod, A. C. 1973. Digital data processing of ERTS-1 imagery of Delaware Bay. Symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration; 1973: 1641-1647.

Cotnoir, L. J. 1974. Marsh soils of the Atlantic Coast. R. J. Reimold, W. H. Queen, editors. Ecology of halophytes. New York: Academic Press, Inc. 441-447.

Cotter, P. J., Johnston, J. B., Quammen, M. L. et al. 1985. Development of a computerized wetlands mapping data base for use in Section 404 jurisdictional determinations in San Francisco Bay. *Coastal Zone '85: proceedings of the fourth symposium on coastal and ocean management*; Baltimore, Maryland. New York: ASCE. 1360-1368.

Coulbourn, W. C. 1972. Some applications of photography, thermal imagery and X band side looking radar to the coastal zone. *Tools for coastal zone management, proceedings of the conference*; February 14-15, 1972. Washington, DC. 59-65.

Day, R. H., Holz, R. K., and Day, J. W., Jr. 1990. An inventory of wetland impoundments in the coastal zone of Louisiana, USA: historical trends. *Environmental Management*. 14(2): 229-240.

de Jesus Parada, N., and de Morrison Valeriano, D. 1982. Application of remote sensing data to land use and land cover assessment in the Tubarao River coastal plain, Santa Catarina, Brazil. Sao Jose dos Campos, Brazil: Instituto de Pesquisas Espaciais.

Dobson, J. E., and Bright, E. A. 1991. CoastWatch -- detecting change in coastal wetlands. *Geo Info Systems*. 1(1): 36-40.

Drake, B., and Patton, K. H. 1980. Land use/cover mapping from Seasat-A radar of the greater part of the Delmarva Peninsula, USA *Proceedings of the fourteenth international symposium on remote sensing of environment*; April 23-30, 1980; San Jose, Costa Rica. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1565-1575.

Egan, W., Hair, and M. E. 1971. Automated delineation of wetlands in photographic remote sensing. *Proceedings of the seventh international symposium on remote sensing of environment*; May 17-21, 1971. Ann Arbor, Michigan: The University of Michigan. 2231-2251.

Enslin, W. R., and Sullivan, M. C. 1974. Use of color infrared photography for wetlands assessment. *Conference on earth resource observations and infrared analysis systems: remote sensing of earth resources*; March 25-27, 1974. Tullahoma, Tennessee: University of Tennessee. 697-719.

Finley, R. J. 1976. Interpretation of unenhanced Landsat imagery for wetland and land use delineation in the Texas coastal zone. *Transactions of the Gulf Coast Association Geological Society*. 279-297.

Finley, R. J., McCulloch, S., and Harwood, P. 1979. Landsat classification of coastal wetlands in Texas. Deutsch, M., D. R. Wiesnet, and A. Rango, editors. *Proceedings of the fifth annual William T. Pecora Memorial symposium on remote sensing*; June 10-15, 1979; Sioux Falls, South Dakota. Minneapolis, Minnesota: American Water Resources Association. 453-462.

Flores, L. M., Reeves, C. A., Hixon, S. B. et al. 1973. Unsupervised classification and areal measurement of land and water coastal features on the Texas coast. Symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 1675-1681.

Gallagher, J. L. 1974. Remote sensing as a tool for studying the ecology of halophytes. R. J. Reimold, and W. H. Queen, editors. Ecology of halophytes. New York: Academic Press, Inc. 511-523.

Gallagher, J. L., Reimold R. J., and Thompson, D. E. A comparison of four remote sensing media for assessing salt marsh primary productivity. Proceedings of the eighth international symposium on remote sensing of environment; October 2-6, 1972. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1287-1295.

Gatto, L. W. 1978. Estuarine processes and intertidal habitats in Grays Harbor, Washington: a demonstration of remote sensing techniques. Hanover, New Hampshire: Cold Regions Research and Engineering Laboratory, US Army Corps of Engineers.

Gazzier, C. A., Frederking, R. L., and Minshew, V. H. 1980. Mapping coastal wetlands of Mississippi with remote sensing. F. Shahrokhi, editor. Proceedings of the seventh annual remote sensing of earth resources conference; ; Tullahoma, Tennessee. 187-198.

Graff, J. M. 1976. Use of Landsat data to relate water depth to observed area of inundation in coastal marshes. Master's thesis. Baton Rouge, Louisiana: Louisiana State University.

Gross, M. F., Hardisky, M. A., Klemas, V. et al. 1987. Quantification of biomass of the marsh grass *Spartina alterniflora* Loisel using Landsat Thematic Mapper imagery. Photogrammetric Engineering and Remote Sensing. 53(11): 1577-1583.

Gross, M. F., Hardisky, and M. A., Klemas, V. 1990. Inter-annual spatial variability in the response of *Spartina alterniflora* biomass to amount of precipitation. Journal of Coastal Research. 6(4): 949-960.

Gross, M. F., and Klemas, V. 1986. The use of Airborne Imaging Spectrometer (AIS) data to differentiate marsh vegetation. Remote Sensing of Environment. 19: 97-103.

Gross, M. F., Klemas, V., and Hardisky, M. A. 1990. Long-term remote monitoring of salt marsh biomass. Proceedings, SPIE's 1990 technical symposium on optical engineering and photonics in aerospace sensing; April 16-20 Orlando, Florida. Earth Observing Systems.

Gross, M. F., Klemas, V., and Levasseur, J. E. 1988. Remote sensing of biomass of salt marsh vegetation in France. *International Journal of Remote Sensing*. 9(3): 397-408.

Guth, J. E. 1972. The National Ocean Survey coastal boundary mapping. Tools for coastal zone management; February 14-15, 1972. Washington, DC. 67-69.

Haddad, K. D., and Harris, B. A. 1985. Assessment and trends of Florida's marine fisheries habitat: an integration of aerial photography and Thematic Mapper imagery. S. K. Mengel and D. B. Morrison, editors. Eleventh international symposium on machine processing of remotely sensed data with special emphasis on quantifying global process: models, sensor systems, and analytical methods; June 25-27, 1985. West Lafayette, Indiana: Purdue University. 130-138.

Halasi-Kun, G. J., editor. 1979. Status of tidal surveying and monuments in New Jersey. Proceedings of University seminar on pollution and water resources. 1-5.

Handley, L. R., Quammen, M. L., and Johnston, J. B. 1987. Wetlands analysis for lower San Francisco Bay. Coastal Zone '87: proceedings of the fifth symposium on coastal and ocean management; Seattle, WA. New York: ASCE. 1154.

Hardisky, M. A., Gross, M. F., and Klemas, V. 1986. Remote sensing of coastal wetlands. *Bioscience*. 36(7): 453-460.

Hardisky, M. A., and Klemas, V. 1985. Remote sensing of coastal wetlands biomass using Thematic Mapper wavebands. Evaluation of spatial, radiometric and spectral Thematic Mapper performance for coastal studies. Newark, Delaware: University of Delaware, College of Marine Studies.

Hardisky, M. A., Klemas, V., and Barker, J. L. 1985. Remote sensing of coastal wetlands biomass using Thematic Mapper wavebands. Symposium on Landsat-4 science characterization early results; February, 1983. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration; 151-270.

Hardisky, M. A., and Klemas, V. 1985. Remote sensing of wetland biomass and productivity. Eighth biennial international estuarine research conference; July 28, 1985. Durham, New Hampshire. 7A.

Hardisky, M. A., Smart, R. M., and Klemas, V. 1983. Seasonal spectral characteristics and aboveground biomass of the tidal marsh plant, *Spartina alterniflora*. *Photogrammetric Engineering and Remote Sensing*. 49(1): 85-92.

Hardisky, M. A., Daiber, F. C., Roman, C. T. et al. 1984. Remote sensing of biomass and annual net aerial primary productivity of a salt marsh. *Remote Sensing of Environment*. 16: 91-106.

Hardisky, M., and Klemas, V. 1984. Aboveground biomass estimation in a tidal brackish marsh using simulated Thematic Mapper spectral data. *Proceedings of the Landsat-4 early results symposium and the Landsat science characterization workshop*; December, 1983; Greenbelt, Md. Washington, DC: National Aeronautics and Space Administration. 121-127.

Hardisky, M. A., and Klemas, V. 1983. Tidal wetlands natural and human-made changes from 1973 to 1979 in Delaware: mapping techniques and results. *Environmental Management*. 7(4): 339-344.

Hecht, L. G., Jr. 1991. Monitoring the Chesapeake Bay in real time. *GIS World*. 4(9): 88-93.

Hick, P. 1979. Remote sensing techniques applied to an estuarine environment problem in Western Australia. *Australian Journal of Instrumentation and Control*. 4-6.

Hill, J. M., and Turnipseed, P. 1989. Spatial analysis of coastal land loss by soil type. *Journal of Coastal Research*. 5.

Holman, R. E., III. 1975. The use of color infrared aerial photography in determining salt marsh vegetation and delimiting man-made structures of Lynnhaven Bay, Virginia. Norfolk, Virginia: Old Dominion University.

Honey, F. R., Hick, P. T., and Blatchford, D. R. 1978. Multi-level inventory and monitoring of wetlands on the Swan Coastal Plain, Western Australia. *Proceedings of the twelfth international symposium on remote sensing of environment*; April 20-26, 1978. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 2027-2044.

Howey, T. W., and Blackmon, J. H. 1987. Use of a geographic information system as a tool for making land use management decisions for coastal wetlands in a state regulatory program. *Coastal Zone '87: proceedings of the fifth symposium on coastal and ocean management*; Seattle, Washington. New York: ASCE. 399-413.

Jenkins, D. W., and Williamson, F. S. L. 1972. Collection and analysis of remotely sensed data from the Rhode River estuary watershed. Washington, DC: Smithsonian Institution.

Johnson, R. W., and Bartlett, D. S. 1985. Remote sensing in large scale biogeochemical research. *Proceedings of the 1985 IGARSS: remote sensing instrumentation -- technology for science and applications*; Amherst, MA. New York: IEEE.

Johnston, J. B., and Longley, W. L. 1980. Remote sensing and its role in coastal resource studies. Proceedings of the fourteenth international symposium on remote sensing of environment; April 23-30, 1980; San Jose, Costa Rica. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1789-1797.

Kelley, J. 1981. Estuarine source of inner shelf suspended sediment. Proceedings of the 94th annual meeting of the Geological Society of America; Cincinnati, Ohio. 484.

Kerhin, R. T. 1974. Linear distribution of the high marsh vegetation communities of the Lower Eastern Shore and its geological significance. Research and investigation of geology, mineral and water resources of Maryland Baltimore, Maryland: Maryland Geological Survey, Johns Hopkins University; 1-19.

Klemas, V. 1976. Remote sensing of coastal wetland vegetation and estuarine water properties. Proceedings of the third international estuarine research conference; Galveston, Texas. New York: Academic Press. 381-403.

Klemas, V. 1979. Remote sensing of coastal processes and resources. Proceedings of the US Army Corps of Engineers remote sensing symposium Reston, Virginia. Fort Belvoir, Virginia: US Army Engineering Topographic Laboratories. 147-165.

Klemas, V. 1986. Remote sensing of estuaries: an overview. Oceans 86 - conference record; September 23-25, 1986; Piscataway, New Jersey. New York, New York: IEEE. 302-309.

Klemas, V. 1986. Remote sensing investigations of wetland biomass and productivity for global biosystems research. Newark, Delaware: College of Marine Sciences, University of Delaware.

Klemas, V. 1987. Remote sensing of estuaries and tide-dominated coastal processes. Proceedings of the 1987 national conference on hydraulic engineering; Williamsburg, Virginia. New York: ASCE. 1-12.

Klemas, V., Ackleson, S. G., and Hardisky, M. A. 1985. Evaluation of spatial, radiometric and spectral Thematic Mapper performance for coastal studies. Newark, Delaware: College of Marine Sciences, University of Delaware.

Klemas, V., and Bartlett, D. 1977. Variability of wetland reflectance and its effect on automatic categorization of satellite imagery. Goddard Space Flight Center, National Aeronautics and Space Administration.

Klemas, V., Bartlett, D. S., and Murillo, M. 1980. Remote sensing of coastal environment and resources. Proceedings of the fourteenth international symposium on remote sensing; April 23-20, 1980; San Jose, Costa Rica. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 543-562.



Klemas, V., Bartlett, D., Philpot, W. et al. 1977. Application of LANDSAT-2 to the management of Delaware's marine and wetland resources: progress report January - March 1977.

Klemas, V., Bartlett, D. S., and Philpot, W. D. 1980. Remote sensing as a technique for synoptic inventories of fisheries related resources. Proceedings of the fifth biennial international estuarine research conference Jekyll Island, Georgia, October 7-12 1979. 359-375.

Klemas, V., Bartlett, D., Roger, R. et al. 1973. Inventories of Delaware's coastal vegetation and land-use utilizing digital processing of ERTS-1 imagery. Third Earth Resources Technology Satellite-1 symposium; December 10-14, 1973; Washington, DC: Goddard Space Flight Center, National Aeronautics and Space Administration. 1243-1255.

Klemas, V., Daiber, F. C., Bartlett, D. S. et al. 1973. Coastal vegetation of Delaware. Sea Grant Program.

Klemas, V., Daiber, F., and Bartlett, D. 1973. Identification of marsh vegetation and coastal land use in ERTS-1 imagery. Symposium on significant results obtained from the Earth Resources Technology Satellite-1. National Aeronautics and Space Administration. 615-627.

Klemas, V., Lyzenga, D., Matteoda, A. et al. 1990. New airborne sensors for monitoring estuaries and coastal waters in conjunction with satellites. Proceedings of Oceans '90; September 24-26, 1990; Washington, DC: IEEE. 422-427.

Klemas, V., Roger, R. H., and Reed, L. E. 1976. Skylab/EREP application to ecological, geological, and oceanographic investigation of Delaware Bay. Newark, Delaware: College of Marine Studies, University of Delaware.

Klemas, V., and Sma, R. 1973. Applicability of ERTS-1 imagery to the study of suspended sediment and aquatic fronts. Symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 1275-1290.

Kolipinski, M. C., and Higer, A. L. 1968. Application of aerial photography and remote sensing to hydrobiological research in South Florida. US Geological Survey Open File Report.

Lacy, R., Somers, R., and Lipscomb, D. 1989. South Carolina's approach for evaluating and updating the National Wetlands Inventory. O. T. Magoon, H. Converse, D. Miner, et al., editors. Coastal Zone '89: proceedings of the sixth symposium on coastal and ocean management; July 11-14, 1989; Charleston, South Carolina. New York: American Society of Civil Engineers. 380-381.

Lambert, E., Lavoie, A., Dubois, J. M. et al. 1984. Remote sensing the near-shore vegetation of Quebec coasts. Proceedings of the eighteenth international symposium on remote sensing of environment; October 1-5, 1984; Paris, France. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 535-541.

Landsat's role in State Coastal Management Programs. 1979. Washington, DC: National Aeronautics and Space Administration.

Leu, D. J. 1982. A procedure for merging remote sensing and field sampling methods to assess existing and historic environmental conditions of coastal wetlands. Doctoral dissertation. Newark, Delaware: University of Delaware.

Linthurst, R. A., and Reimold, R. J. 1973. Existing aerial photographic resources of coastal Georgia and a brief listing of interpretative aids: Technical report. Savannah, Georgia: Georgia Marine Science Center.

Lund, H. G. 1990. Inventory technology: "ebb tides," "flash floods," and "whirlpools." Forest Ecology and Management. 559-579.

Lyon, J. G., and McCarthy, J. F. 1981. Seasat imagery for detection of coastal wetlands. Proceedings of the fifteenth international symposium on remote sensing of environment; May 11-15, 1981. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1475-1485.

MacDonald, H. C., Waite, W. P., and Demarcke, J. A. S. 1981. Seasat radar geomorphic applications in coastal and wetland environments, southeastern U.S. Technical papers of the 1981 fall technical meeting of the American Society of Photogrammetry; San Francisco, California. 181-190.

Mairs, R. L., Wobber, F. J., Garofalo, D. et al. 1973. Application of ERTS-1 data to the protection and management of New Jersey's coastal environment. Proceedings of a symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 629-634.

McEwen, R. B., Kosco, W. J., and Carter, V. 1976. Coastal wetland mapping. Photogrammetric Engineering and Remote Sensing. 42(2): 221-232.

Metivier, E. D., and O'Malley, J. R. 1975. Coastal surveillance: a Georgia example. Symposium on the utilization of remote sensing data in the Southeast U.S.; January 29-30, 1975; Athens, Georgia. Falls Church, Virginia: ASP. 1-12.

Meyer-Arendt, K. J., and Wicker, K. M. 1981. Classification and mapping habitats within the Mississippi River deltaic plain region. B. F. Richason, Editor. Proceedings of the Pecora VII symposium; October 18-21, 1981; Sioux Falls, South Dakota. 163-174.

Middleton, E. M., Lu, Y. C., Witt, R. G. et al. 1985. Relative accuracy assessment of Landsat-4 MSS and TM data for Level I land cover inventory. Landsat-4 science characterization early results. Washington, DC: National Aeronautics and Space Administration. 431-446.

Monakhov, M. A. 1973. Extrapolation of indicator schemes within salt marshes. Landscape indicators -- new techniques in geology and geography. New York: Plenum Press.

Monte, J. A. 1981. Use of near color infrared photography to assess the impact of the oil and natural gas industry on Louisiana's wetlands. Proceedings of the 1981 IGARSS symposium; June 8-10, 1981; Washington, DC. New York: IEEE. 768-777.

Mouganis-Mark, P., Ferrall, C., Gaddis, L. et al. 1984. Spaceborne and airborne radar, infrared and thermal studies of coastal processes at the Mississippi Delta, Louisiana. Proceedings of the tenth international symposium on machine processing of remotely sensing data with special emphasis on Thematic Mapper data and geographic information systems; June 12-14, 1984; Purdue University. West Lafayette, Indiana: Purdue University. 253-259.

Mugler, J. P., Jr., Godfrey, J. P., Hickman, G. D. et al. 1977. Role of remote sensing in Bay measurements. Proceedings of the application of remote sensing to the Chesapeake Bay region; April 12, 1977; Berkeley Springs, West Virginia. Washington, DC: National Aeronautics and Space Administration.

Mulligan, P. J., Gervin, J. C., and Lu, Y. C. 1983. Comparison of MSS and TM data for landcover classification in the Chesapeake Bay area: a preliminary report. J. L. Barker, editor. Proceedings of the Landsat-4 science characterization early results symposium; February 22-24, 1983. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 415-419.

Munday, J. C., and Gordon, H. H. 1978. Application of remote sensing to estuarine management: annual report no. 6. Washington, DC: National Aeronautics and Space Administration.

Navarro, A. A., and Wellar, B. S. 1983. Underwater mapping techniques using remote sensing for salvaging sunken vessels. Proceedings of the sixth international symposium on automated cartography; October, 1983. Ottawa: Canadian National Committee for Auto-Carto Six. 549-558.

Nayak, S., Gupta, M. C., Chauhan, H. B. et al. 1986. The application of Landsat data for coastal zone monitoring: a case study on the west coast of India. Proceedings of the regional seminar on the application of remote sensing techniques to coastal zone management and environmental monitoring; November 18-26, 1986; Dhaka, Bangladesh. 320-327.

- Nayak, S. R., and Sahai, B. 1984. Coastal morphology: a case study of the Gulf of Khambhat (Cambay). *International Journal of Remote Sensing*. 6(3-4):559-567.
- Norton, D. J., Organ, J., and Litwin, T. 1985. Covertypes classification and mapping on Long Island's national wildlife refuges. Technical papers of the 1985 ASPRS-ACSM annual convention; Washington, DC. Falls Church, Virginia: ASPRS. 585-594.
- Parada, N. D. J., and Valeriano, D. D. M. 1982. Application of remote sensing data to land use and land cover assessment in the Tubarao River coastal plain, Santa Catarina, Brazil. Presented at the international symposium on utilization of coastal ecosystems: planning, pollution and productivity; November 22-27, 1982; Rio Grande, Brazil.
- Paris, J. F. 1974. Coastal zone mapping from ERTS-1 data using computer-aided techniques. *Proceedings of the second Canadian symposium on remote sensing*. Canadian Society of Remote Sensing. 515-528.
- Park, R. A., Trehan, M. S., Mausel, P. W. et al. 1989. Coastal wetlands in the twenty-first century: profound alterations due to rising sea level. *Wetlands: concerns and successes*. 71-80.
- Pearlstine, L., and Kitchens, W. 1985. Community succession modeling for resource management. *Coastal Zone '85: proceedings of the fourth symposium on coastal and ocean management*; Baltimore, Maryland. New York: ASCE. 1369-1381.
- Pelletier, R. E., and Wu, S. T. 1989. A preliminary evaluation of the Airborne Electromagnetic Bathymetry System for characterization of coastal sediments and marsh soils. Technical papers of the 1989 ASPRS/ACSM annual convention; April 2-7, 1989; Baltimore, Maryland. 366-375.
- Polis, D. F., Salter, M., and Lind, H. 1974. Hydrographic verification of wetland delineation by remote sensing. *Photogrammetric Engineering*. 40(2): 75-78.
- Rollet, B., and Damen, M. C. J. 1986. Photo-interpretation of wetland vegetation in the Lesser Antilles (Guadeloupe). *Proceedings of the seventh ISPRS Commission symposium*; Enschede. Balkema. 499-504.
- Rousseau, J. 1984. Remote sensing applications for coastal/marine planning and management in developing countries. *Proceedings of the eighteenth meeting of the Association of Island Marine Laboratories of the Caribbean*; August 13, 1984; St. James, Trinidad. 3.
- Sasser, C. E., Dozier, M. D., Gosselink, J. G. et al. 1986. Spatial and temporal changes in Louisiana's Barataria Basin marshes, 1945-1980. *Environmental Management*. 10(5): 671-680.

Sriplung, N. 1978. Thailand's littoral mudflats as interpreted from Landsat imagery. International Symposium on Remote Sensing of the Environment. 2045-2049.

Thompson, D. E. 1972. Airborne remote sensing of Georgia tidal marshes. Operational remote sensing: an interactive seminar to evaluate current capabilities; February 1-4, 1972; Houston, Texas. Falls Church, Virginia: American Society of Photogrammetry. 126-139.

Tilton, E. L., III. 1981. Application of space remote sensing technology to living marine resources in coastal zones. Advances in earth oriented applications of space technology. 89-96.

Tomlins, G. F., and Thomson, K. P. B. 1981. Toward an operational, satellite-based wetland monitoring program for the Fraser River estuary, British Columbia. Proceedings of the seventh Canadian symposium on remote sensing; Winnipeg, Manitoba. Ottawa, Ontario: Canadian Aeronautics & Space Institute. 74-82.

Turner, R. E. 1987. Aerial imagery interpretation of relationship between canal area and number of new ponds. Proceedings of the eighth annual Gulf of Mexico information transfer meeting; New Orleans, Louisiana. 196-198.

Ulanowicz, R. E. 1974. A survey for the use of remote sensing in the Chemical Bay region. Chesapeake Research Consortium.

Weaver, M. G., Cross, G. H., and Mead, R. A. 1980. Repetitive aerial photography for assessing marsh vegetation change. Technical papers of the American Society of Photogrammetry ACSM-ASP Convention; March 9-14, 1980; St. Louis, Missouri. Falls Church, Virginia: American Society of Photogrammetry. 395-409.

Weismuller, R. A., Kristof, S. J., Scholz, D. K. et al. 1977. Evaluation of change detection techniques for monitoring coastal zone environments. Proceedings of the eleventh international symposium on remote sensing of environment; April 25-29, 1977, Michigan. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1129-1238.

Whitehurst, C. A. 1976. Interpretation of remote sensing data in the Bayou Lafourche delta of South Louisiana. Baton Rouge, Louisiana: Louisiana State University.

Whitehurst, C. A., Blanchard, W. A., and Doiron, L. N. 1977. The use of color infrared imagery for the study of marsh buggy tracks. Photogrammetric Engineering and Remote Sensing. 1049-1050.

Whitehurst, C. A., and Doiron, L. N. 1974. Geomorphic processes active in the Southwestern Louisiana Canal, Lafourche Parish, Louisiana. Baton Rouge, Louisiana: Louisiana State University, Division of Engineering Research.

Williams, D. R., Balogh, M. E., and Foresman, T. W. 1986. Wetlands: a perspective for mapping, monitoring, and modeling. Technical papers of the 1986 fall technical meeting of the American Society of Photogrammetry and Remote Sensing; Anchorage, Alaska. Falls Church, Virginia: ASPRS. 379-380.

Williams, R. S., Jr. 1973. Coastal and submarine features on MSS imagery of southeastern Massachusetts: comparison with conventional maps. Proceedings of the symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 1413-1422.

Yeagen, M. E. 1984. Remote sensing, sedimentation and vegetation distribution within the coastal wetlands, Eastern St. Louis Bay, Mississippi. Brunton, G. D. Mississippi - Alabama Sea Grant Consortium report on modern and ancient sedimentary process and response within the Alabama linear barrier coastal system. Mississippi - Alabama Sea Grant Consortium. 142-152.

## **Tidal Freshwater Marsh**

Akhavi, M. S., and Madjedi, M. 1975. Application of ERTS-1 imagery to water and marine resources in Iran. Proceedings of the seminar on remote-sensing applications; Bangkok, Thailand. Economic and Social Community, Asia and Pacific Mineral Resources Section. 92-100.

Anderson, R. R. 1972. Applications of high-altitude remote sensing to coastal zone ecological studies. Operational remote sensing: an interactive seminar to evaluate current capabilities; February 1-4, 1972; Houston, Texas. American Society of Photogrammetry. 191-195.

Anderson, R., Alsid, L., and Carter, V. Comparative utility of Landsat-1 and Skylab data for coastal wetland mapping and ecological studies. Proceedings of the NASA earth resources survey symposium; June 1975. Houston, Texas: Lyndon B. Johnson Space Center, National Aeronautics and Space Administration 469-474.

Anderson, R. R., Carter, V., and McGinness, J. 1973. Applications of ERTS data to coastal wetland ecology with special reference to plant community mapping and typing and impact of man. Third Earth Resources Technology Satellite-1 symposium; December 10-14, 1973; Washington, DC. 1225-1242.

Anderson, R. R., Carter, V., and McGinness, J. 1974. ERTS-1 investigation of wetlands ecology. Washington, DC: The American University.

Anderson, R. R., Carter, V., and McGinness, J. 1973. Mapping Atlantic coastal marshlands, Maryland, Georgia, using ERTS-1 imagery. Symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. 603-613.

Baker, S. 1985. Land use and land cover classification of the North Carolina Barrier Islands: Level 3. Raleigh, North Carolina: North Carolina State University.

Bartlett, D. S. 1979. Spectral reflectance of tidal wetland plant canopies and implications for remote sensing. Doctoral dissertation. Newark, Delaware: University of Delaware.

Bartlett, D. S. 1982. Remote sensing of tidal wetlands: mapping and beyond. Oceans '82 conference record: industry, government, education, partners in progress; Washington, DC. New York: IEEE. 458-463.

Bartlett, D. S., and Klemas, V. 1979. Assessment of tidal wetland habitat and productivity. Proceedings of the thirteenth international symposium on remote sensing of the environment; April 23-27, 1979. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 693-701.

- Bartlett, D. S., and Klemas, V. 1979. Evaluation of remote sensing techniques for surveying coastal wetlands. Newark, Delaware: University of Delaware.
- Bartlett, D. S., and Klemas, V. 1980. Quantitative assessment of tidal wetlands using remote sensing. *Environmental Management*. 4(4): 337-345.
- Bartlett, D. S., and Klemas, V. 1981. In situ spectral reflectance studies of tidal wetland grasses. *Photogrammetric Engineering and Remote Sensing*. 47(12): 1695-1703.
- Bartlett, D. S., Klemas, V., Rogers, R. H. et al. 1977. Variability of wetland reflectance and its effect on automatic categorization of satellite imagery. Technical papers of the 1977 annual ASP/ACSM annual meeting; February 27 - March 5, 1977; Washington, DC, Falls Church, Virginia: American Society of Photogrammetry.
- Bates, A. L. 1989. Low level remote sensing of aquatic weeds. Proceedings of workshop on management of aquatic weeds and mosquitoes in impoundments; March 14-15, 1989; University of North Carolina at Charlotte. Raleigh, North Carolina: Water Resources Research Institute of the University of North Carolina. 133-136.
- Baumann, R. H., and Adams, R. D. 1981. Remote sensing as a tool in determining probable impacts of flood control and navigation structures on wetland restoration in the lower Atchafalaya system. Sixth biennial international estuarine research conference; November 1-5, 1981; Gleneden Beach, Oregon. 267.
- Benton, A. R., Jr., Blanchard, A. J., and Newton, R. W. 1983. Multifrequency radar interpretation techniques applied to the coastal zone. Technical papers of the 1983 ACSM-ASP fall convention; September 19-23, 1983; Salt Lake City, Utah. 157-166.
- Benton, A. R., Jr., Clark, C. A., and Snell, W. W. 1980. Galveston Island - a changing environment. College Station, Texas: Texas A & M University.
- Benton, A. R. Jr., Shell, W. W., and Clark, C. A. 1979. Monitoring man's impact in the coastal zone. Joint Proceedings of the ASP/ACSM Fall Technical Meeting; September 17-20, 1979; Sioux Falls, South Dakota. Falls Church, Virginia: American Congress on Surveying and Mapping. 237-250.
- Boylan, M. 1978. Use of remote sensing for land use policy formulation: semiannual progress report: June - November, 1977. East Lansing, Michigan: Michigan State University.
- Boylan, M. 1980. Use of remote sensing for land use policy formulation: annual progress report: June, 1978 - May 1979. East Lansing, Michigan: Michigan State University.



Bradfield, G. E., and Campbell, A. 1986. Vegetation-elevation correlation in two dyked marshes of northeastern Vancouver Island: a multivariate analysis. *Canadian Journal of Botany*. 2487-2494.

Brannon, D. P., and Irish, J. 1985. Satellite remote sensing and geographic information systems applied to biogeochemical flux estimates. Biennial International Estuarine Research Conference Durham, NH 28 Jul 1985.

Browder, J. A., May, L. N., Rosenthal, A. et al. 1988. Utilizing remote sensing of Thematic Mapper data to improve our understanding of estuarine processes and their influence on the productivity of estuarine-dependent fisheries. Baton Rouge, Louisiana: Center for Wetland Resources, Louisiana State University.

Browder, J. A., May, L. N., Jr., Rosenthal, A. et al. 1989. Modeling future trends in wetland loss and brown shrimp production in Louisiana using Thematic Mapper imagery. *Remote Sensing of Environment*. 28: 45-59.

Butera, M. K. 1977. A technique for the determination of Louisiana marsh salinity zones from vegetation mapped by multispectral scanner data: a comparison of satellite and aircraft data. National Aeronautics and Space Administration.

Butera, M. K. 1981. Computer-implemented remote sensing techniques for measuring coastal productivity and nutrient transport systems. Proceedings of the fifth annual William T. Pecora memorial symposium on remote sensing: satellite hydrology; June 10-15, 1979; Sioux Falls, South Dakota. 522-532.

Butera, M. K. 1985. Remote sensing of coastal wetlands: where is research headed? Integration of remote sensed data in geographic information systems for processing of global resource information: proceedings of a working group meeting; May 29-31, 1985 Washington, DC: Centre for Earth Resource Management Applications. 1-11.

Butera, M. K., and Seyfarth, B. R. 1981. A determination of marsh detrital export from Landsat MSS data - a function of transport distance and water body characterization. P. G. Buroff, and D. B. Morrison, editors. Seventh international symposium on machine processing of remotely sensed data with special emphasis on range, forest, and wetlands assessment; June 23-26, 1981; Purdue University. West Lafayette, Indiana: Laboratory for Applications of Remote Sensing, Purdue University. 240-253.

Carter, V. (undated). Applications of remotely sensed data to wetland studies. J. J. Rycroft, and A. C. Strickland, editors. COSPAR: Space Research. Washington, DC: US Geological Survey. 19-23.

Carter, V. 1976. Computer mapping of coastal wetlands. Washington, DC: US Geological Survey.

Carter, V. 1977. Coastal wetlands: the present and future role of remote sensing. Proceedings of the eleventh international symposium on remote sensing of environment; April 25-29, 1977. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 301-323.

Carter, V. P., and Anderson, R. R. 1972. Interpretation of wetlands imagery based on spectral reflectance characteristics of selected plant species. Proceedings of the 38th annual meeting of American Society of Photogrammetry; March 12-17, 1972; Washington, DC. Falls Church, Virginia: American Society of Photogrammetry. 580-595.

Carter, V., and Anderson, R. R. 1976. Coastal wetland mapping in the central Atlantic region. Washington, DC: US Geological Survey.

Carter, V., and Anderson, R. R. 1976. Tidal effects in coastal wetlands. Washington, DC: US Geological Survey.

Carter, V., Anderson, R. R., and McGinness, J. W., Jr. 1976. Wetland classification and mapping along the South Atlantic Coast. Washington, DC: US Geological Survey.

Carter, V., and Schubert, J. 1974. Coastal wetlands analysis from ERTS MSS digital data and field spectral measurements. Proceedings of the ninth international symposium on remote sensing of environment; April 15-19, 1974. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1241-1260.

Cartmill, R. H. 1974. Evaluation of satellite remote sensing and automatic data techniques for characterization of wetlands and coastal marshlands. Bay St. Louis, Mississippi: Earth Resources Laboratory, National Space Technology Laboratories.

Cibula, W. G. 1972. Application of remotely sensed multispectral data to automated analysis of marshland vegetation. Bay St. Louis, Mississippi: Earth Resources Laboratory, Mississippi Test Facility.

Conrod, A. C. 1973. Digital data processing of ERTS-1 imagery of Delaware Bay. Symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 1641-1647.

Cotnoir, L. J. 1974. Marsh soils of the Atlantic Coast. R. J. Reimold, W. H. Queen, editors. Ecology of halophytes. New York: Academic Press, Inc. 441-447.

Cotter, P. J., Johnston, J. B., Quammen, M. L. et al. 1985. Development of a computerized wetlands mapping data base for use in Section 404 jurisdictional determinations in San Francisco Bay. Coastal Zone '85: proceedings of the fourth symposium on coastal and ocean management; Baltimore, Maryland. New York: ASCE. 1360-1368.

Coulbourn, W. C. 1972. Some applications of photography, thermal imagery and X band side looking radar to the coastal zone. Tools for coastal zone management, proceedings of the conference; February 14-15, 1972; Washington, DC. 59-65.

Day, R. H., Holz, R. K., and Day, J. W., Jr. 1990. An inventory of wetland impoundments in the coastal zone of Louisiana, USA: historical trends. Environmental Management. 14(2): 229-240.

de Jesus Parada, N., and de Morrison Valeriano, D. 1982. Application of remote sensing data to land use and land cover assessment in the Tubarao River coastal plain, Santa Catarina, Brazil. Sao Jose dos Campos, Brazil: Instituto de Pesquisas Espaciais.

Dobson, J. E., and Bright, E. A. 1991. CoastWatch -- detecting change in coastal wetlands. Geo Info Systems. 1(1): 36-40.

Drake, B., and Patton, K. H. 1980. Land use/cover mapping from Seasat-A radar of the greater part of the Delmarva Peninsula, U.S.A. Proceedings of the fourteenth international symposium on remote sensing of environment; April 23-30, 1980; San Jose, Costa Rica. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1565-1575.

Egan, W., and Hair, M. E. 1971. Automated delineation of wetlands in photographic remote sensing. Proceedings of the seventh international symposium on remote sensing of environment; May 17-21, 1971. Ann Arbor, Michigan: The University of Michigan. 2231-2251.

Enslin, W. R., and Sullivan, M. C. 1974. Use of color infrared photography for wetlands assessment. Conference on earth resource observations and infrared analysis systems: remote sensing of earth resources; March 25-27, 1974. Tullahoma, Tennessee: University of Tennessee. 697-719.

Finley, R. J. 1976. Interpretation of unenhanced Landsat imagery for wetland and land use delineation in the Texas coastal zone. Transactions of the Gulf Coast Association Geological Society. 279-297.

Finley, R. J., McCulloch, S., and Harwood, P. 1979. Landsat classification of coastal wetlands in Texas. M. Deutsch, D. R. Wiesnet, and A. Rango, editors. Proceedings of the fifth annual William T. Pecora Memorial symposium on remote sensing; June 10-15, 1979; Sioux Falls, South Dakota. Minneapolis, Minnesota: American Water Resources Association. 453-462.

Flores, L. M., Reeves, C. A., Hixon, S. B. et al. 1973. Unsupervised classification and areal measurement of land and water coastal features on the Texas coast. Symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 1675-1681.

Gallagher, J. L. 1974. Remote sensing as a tool for studying the ecology of halophytes. R. J. Reimold, and W. H. Queen, editors. Ecology of halophytes. New York: Academic Press, Inc. 511-523.

Gatto, L. W. 1978. Estuarine processes and intertidal habitats in Grays Harbor, Washington: a demonstration of remote sensing techniques. Hanover, New Hampshire: Cold Regions Research and Engineering Laboratory, US Army Corps of Engineers.

Gazzier, C. A., Frederking, R. L., and Minshew, V. H. 1980. Mapping coastal wetlands of Mississippi with remote sensing. F. Shahrokhi, editor. Proceedings of the seventh annual remote sensing of earth resources conference; Tullahoma, Tennessee. 187-198.

Graff, J. M. 1976. Use of Landsat data to relate water depth to observed area of inundation in coastal marshes. Master's thesis. Baton Rouge, Louisiana: Louisiana State University.

Gross, M. F., and Klemas, V. 1986. The use of Airborne Imaging Spectrometer (AIS) data to differentiate marsh vegetation. Remote Sensing of Environment. 19: 97-103.

Guth, J. E. 1972. The National Ocean Survey coastal boundary mapping. Tools for coastal zone management; February 14-15, 1972; Washington, DC. 67-69.

Haddad, K. D., and Harris, B. A. 1985. Assessment and trends of Florida's marine fisheries habitat: an integration of aerial photography and Thematic Mapper imagery. S. K. Mengel, D. B. Morrison, editors. Eleventh international symposium on machine processing of remotely sensed data with special emphasis on quantifying global process: models, sensor systems, and analytical methods; June 25-27, 1985; Purdue University. West Lafayette, Indiana: Purdue University. 130-138.

Halasi-Kun, G. J., editor. 1979. Status of tidal surveying and monuments in New Jersey. Proceedings of University seminar on pollution and water resources. 1-5.

Handley, L. R., Quammen, M. L., and Johnston, J. B. 1987. Wetlands analysis for lower San Francisco Bay. Coastal Zone '87: proceedings of the fifth symposium on coastal and ocean management; Seattle, WA. New York: ASCE. 1154.

Hardisky, M. A., Gross, M. F., and Klemas, V. 1986. Remote sensing of coastal wetlands. *Bioscience*. 36(7): 453-460.

Hardisky, M. A., and Klemas, V. 1983. Tidal wetlands natural and human-made changes from 1973 to 1979 in Delaware: mapping techniques and results. *Environmental Management*. 7(4): 339-344.

Hardisky, M. A., and Klemas, V. 1985. Remote sensing of coastal wetlands biomass using Thematic Mapper wavebands. Evaluation of spatial, radiometric and spectral Thematic Mapper performance for coastal studies. Newark, Delaware: University of Delaware, College of Marine Studies.

Hardisky, M. A., and Klemas, V. 1985. Remote sensing of wetland biomass and productivity. Eighth biennial international estuarine research conference; July 28, 1985; Durham, New Hampshire. 7A.

Hardisky, M. A., Klemas, V., and Barker, J. L. 1985. Remote sensing of coastal wetlands biomass using Thematic Mapper wavebands. Symposium on Landsat-4 science characterization early results; February, 1983. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 151-270.

Hecht, L. G., Jr. 1991. Monitoring the Chesapeake Bay in real time. *GIS World*. 4(9): 88-93.

Hick, P. 1979. Remote sensing techniques applied to an estuarine environment problem in Western Australia. *Australian Journal of Instrumentation and Control*. 1979: 4-6.

Hill, J. M., and Tumipseed, P. 1989. Spatial analysis of coastal land loss by soil type. *Journal of Coastal Research*. 5.

Honey, F. R., Hick, P. T., and Blatchford, D. R. 1978. Multi-level inventory and monitoring of wetlands on the Swan Coastal Plain, Western Australia. Proceedings of the twelfth international symposium on remote sensing of environment; April 20-26, 1978. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 2027-2044.

Howey, T. W., and Blackmon, J. H. 1987. Use of a geographic information system as a tool for making land use management decisions for coastal wetlands in a state regulatory program. Coastal Zone '87: proceedings of the fifth symposium on coastal and ocean management; Seattle, Washington. New York: ASCE. 399-413.

Jenkins, D. W., and Williamson, F. S. L. 1972. Collection and analysis of remotely sensed data from the Rhode River estuary watershed. Washington, DC: Smithsonian Institution.

- Johnson, R. W., and Bartlett, D. S. 1985. Remote sensing in large scale biogeochemical research. Proceedings of the 1985 IGARSS: remote sensing instrumentation -- technology for science and applications; Amherst, MA. New York: IEEE.
- Johnston, J. B., and Longley, W. L. 1980. Remote sensing and its role in coastal resource studies. Proceedings of the fourteenth international symposium on remote sensing of environment; April 23-30, 1980; San Jose, Costa Rica. Ann Arbor, Michigan: Environmental Research Institute of Michigan 1789-1797.
- Kelley, J. 1981. Estuarine source of inner shelf suspended sediment. Proceedings of the 94th annual meeting of the Geological Society of America; Cincinnati, Ohio. 484.
- Kerhin, R. T. 1974. Linear distribution of the high marsh vegetation communities of the Lower Eastern Shore and its geological significance. Research and investigation of geology, mineral and water resources of Maryland. Baltimore, Maryland: Maryland Geological Survey, Johns Hopkins University 1-19.
- Klemas, V. 1976. Remote sensing of coastal wetland vegetation and estuarine water properties. Proceedings of the third international estuarine research conference; Galveston, Texas. New York: Academic Press. 381-403.
- Klemas, V. 1979. Remote sensing of coastal processes and resources. Proceedings of the U S Army Corps of Engineers remote sensing symposium; Reston, Virginia. Fort Belvoir, Virginia: U S Army Engineering Topographic Laboratories. 147-165.
- Klemas, V. 1986. Remote sensing of estuaries: an overview. Oceans 86 - conference record; September 23-25, 1986; Piscataway, New Jersey. New York, New York: IEEE. 302-309.
- Klemas, V. 1986. Remote sensing investigations of wetland biomass and productivity for global biosystems research. Newark, Delaware: College of Marine Sciences, University of Delaware.
- Klemas, V. 1987. Remote sensing of estuaries and tide-dominated coastal processes. Proceedings of the 1987 national conference on hydraulic engineering; Williamsburg, Virginia. New York: ASCE. 1-12.
- Klemas, V., Ackleson, S. G., and Hardisky, M. A. 1985. Evaluation of spatial, radiometric and spectral Thematic Mapper performance for coastal studies. Newark, Delaware: College of Marine Sciences, University of Delaware.
- Klemas, V., Bartlett, D., Philpot, W. et al. 1977. Application of LANDSAT-2 to the management of Delaware's marine and wetland resources: progress report January - March 1977.

Klemas, V., Bartlett, D., Roger, R. et al. 1973. Inventories of Delaware's coastal vegetation and land-use utilizing digital processing of ERTS-1 imagery. Third Earth Resources Technology Satellite-1 symposium; December 10-14, 1973. Washington, DC: Goddard Space Flight Center, National Aeronautics and Space Administration. 1243-1255.

Klemas, V., Bartlett, D. S., and Murillo, M. 1980. Remote sensing of coastal environment and resources. Proceedings of the fourteenth international symposium on remote sensing; April 23-20, 1980; San Jose, Costa Rica. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 543-562.

Klemas, V., Bartlett, D. S., and Philpot, W. D. 1980. Remote sensing as a technique for synoptic inventories of fisheries related resources. Proceedings of the fifth biennial international estuarine research conference Jekyll Island, Georgia, October 7-12 1979. 359-375.

Klemas, V., and Bartlett, D. 1977. Variability of wetland reflectance and its effect on automatic categorization of satellite imagery. Goddard Space Flight Center, National Aeronautics and Space Administration.

Klemas, V., Daiber, F. C., Bartlett, D. S. et al. 1973. Coastal vegetation of Delaware. Sea Grant Program.

Klemas, V., Daiber, F., and Bartlett, D. 1973. Identification of marsh vegetation and coastal land use in ERTS-1 imagery. Symposium on significant results obtained from the Earth Resources Technology Satellite-1. National Aeronautics and Space Administration. 615-627.

Klemas, V., Lyzenga, D., Matteoda, A. et al. 1990. New airborne sensors for monitoring estuaries and coastal waters in conjunction with satellites. Proceedings of Oceans '90; September 24-26, 1990; Washington, DC. IEEE. 422-427.

Klemas, V., Roger, R. H., and Reed, L. E. 1976. Skylab/EREP application to ecological, geological, and oceanographic investigation of Delaware Bay. Newark, Delaware: College of Marine Studies, University of Delaware.

Klemas, V., and Sma, R. 1973. Applicability of ERTS-1 imagery to the study of suspended sediment and aquatic fronts. Symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 1275-1290.

Kolipinski, M. C., and Higer, A. L. 1968. Application of aerial photography and remote sensing to hydrobiological research in South Florida. US Geological Survey Open File Report. 1968.

Lacy, R., Somers, R., and Lipscomb, D. 1989. South Carolina's approach for evaluating and updating the National Wetlands Inventory. O. T. Magoon, H. Converse, D. Miner, et al., editors. Coastal Zone '89: proceedings of the sixth symposium on coastal and ocean management; July 11-14, 1989; Charleston, South Carolina. New York: American Society of Civil Engineers. 380-381.

Lambert, E., Lavoie, A., Dubois, J. M. et al. 1984. Remote sensing the near-shore vegetation of Quebec coasts. Proceedings of the eighteenth international symposium on remote sensing of environment; October 1-5, 1984; Paris, France. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 535-541.

Landsat's role in State Coastal Management Programs. 1979. Washington, DC: National Aeronautics and Space Administration.

Leu, D. J. 1982. A procedure for merging remote sensing and field sampling methods to assess existing and historic environmental conditions of coastal wetlands. Doctoral dissertation. Newark, Delaware: University of Delaware.

Linthurst, R. A., and Reimold, R. J. 1973. Existing aerial photographic resources of coastal Georgia and a brief listing of interpretative aids: Technical report. Savannah, Georgia: Georgia Marine Science Center.

Lund, H. G. 1990. Inventory technology: "ebb tides," "flash floods," and "whirlpools." Forest Ecology and Management. 559-579.

Lyon, J. G., and McCarthy, J. F. 1981. Seasat imagery for detection of coastal wetlands. Proceedings of the fifteenth international symposium on remote sensing of environment; May 11-15, 1981. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1475-1485.

MacDonald, H. C., Waite, W. P., and Demarcke, J. A. S. 1981. Seasat radar geomorphic applications in coastal and wetland environments, southeastern U.S. Technical papers of the 1981 fall technical meeting of the American Society of Photogrammetry; San Francisco, California. 181-190.

Mairs, R. L., Wobber, F. J., Garofalo, D. et al. 1973. Application of ERTS-1 data to the protection and management of New Jersey's coastal environment. Proceedings of a symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 629-634.

McEwen, R. B., Kosco, W. J., and Carter, V. Coastal wetland mapping. Photogrammetric Engineering and Remote Sensing. 42(2): 221-232.



Metivier, E. D., and O'Malley, J. R. 1975. Coastal surveillance: a Georgia example. Symposium on the utilization of remote sensing data in the South-east U.S.; January 29-30, 1975; Athens, Georgia. Falls Church, Virginia: ASP. 1-12.

Meyer-Arendt, K. J., and Wicker, K. M. 1981. Classification and mapping habitats within the Mississippi River deltaic plain region. B. F. Richason, Editor. Proceedings of the Pecora VII symposium; October 18-21, 1981; Sioux Falls, South Dakota. 163-174.

Middleton, E. M., Lu, Y. C., Witt, R. G. et al. 1985. Relative accuracy assessment of Landsat-4 MSS and TM data for Level I land cover inventory. Landsat-4 science characterization early results. Washington, DC: National Aeronautics and Space Administration. 431-446.

Monte, J. A. 1981. Use of near color infrared photography to assess the impact of the oil and natural gas industry on Louisiana's wetlands. Proceedings of the 1981 IGARSS symposium; June 8-10, 1981; Washington, DC New York: IEEE. 768-771.

Mouganis-Mark, P., Ferrall, C., Gaddis, L. et al. 1984. Spaceborne and airborne radar, infrared and thermal studies of coastal processes at the Mississippi Delta, Louisiana. Proceedings of the tenth international symposium on machine processing of remotely sensing data with special emphasis on Thematic Mapper data and geographic information systems; June 12-14, 1984; Purdue University. West Lafayette, Indiana: Purdue University. 253-259.

Mugler, J. P., Jr., Godfrey, J. P., Hickman, G. D. et al. 1977. Role of remote sensing in Bay measurements. Proceedings of the application of remote sensing to the Chesapeake Bay region; April 12, 1977; Berkeley Springs, West Virginia. Washington, DC: National Aeronautics and Space Administration.

Mulligan, P. J., Gervin, J. C., and Lu, Y. C. 1983. Comparison of MSS and TM data for landcover classification in the Chesapeake Bay area: a preliminary report. J. L. Barker, editor. Proceedings of the Landsat-4 science characterization early results symposium; February 22-24, 1983. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 415-419.

Munday, J. C., and Gordon, H. H. 1978. Application of remote sensing to estuarine management: annual report no. 6. Washington, DC: National Aeronautics and Space Administration.

Navarro, A. A., and Wellar, B. S. 1978. Underwater mapping techniques using remote sensing for salvaging sunken vessels. Proceedings of the sixth international symposium on automated cartography; October, 1983. Ottawa: Canadian National Committee for Auto-Carto Six. 549-558.

- Nayak, S., Gupta, M. C., Chauhan, H. B. et al. 1986. The application of Landsat data for coastal zone monitoring: a case study on the west coast of India. Proceedings of the regional seminar on the application of remote sensing techniques to coastal zone management and environmental monitoring; November 18-26, 1986; Dhaka, Bangladesh. 320-327.
- Nayak, S. R., and Sahai, B. 1984. Coastal morphology: a case study of the Gulf of Khambhat (Cambay). *International Journal of Remote Sensing*. 6(3-4):559-567.
- Norton, D. J., Organ, J., and Litwin, T. 1985. Covertypes classification and mapping on Long Island's national wildlife refuges. Technical papers of the 1985 ASPRS-ACSM annual convention; Washington, DC. Falls Church, Virginia: ASPRS. 585-594.
- Parada, N. D. J., and Valeriano, D. D. M. 1982. Application of remote sensing data to land use and land cover assessment in the Tubarao River coastal plain, Santa Catarina, Brazil. Presented at the international symposium on utilization of coastal ecosystems: planning, pollution and productivity; November 22-27, 1982; Rio Grande, Brazil.
- Paris, J. F. 1974. Coastal zone mapping from ERTS-1 data using computer-aided techniques. Proceedings of the second Canadian symposium on remote sensing. Canadian Society of Remote Sensing. 515-528.
- Park, R. A., Trehan, M. S., Mausel, P. W. et al. 1989. Coastal wetlands in the twenty-first century: profound alterations due to rising sea level. *Wetlands: concerns and successes*. 71-80.
- Pearlstine, L., and Kitchens, W. 1985. Community succession modeling for resource management. Coastal Zone '85: proceedings of the fourth symposium on coastal and ocean management; Baltimore, Maryland. New York: ASCE. 1369-1381.
- Pelletier, R. E., and Wu, S. T. 1989. A preliminary evaluation of the Airborne Electromagnetic Bathymetry System for characterization of coastal sediments and marsh soils. Technical papers of the 1989 ASPRS/ACSM annual convention; April 2-7, 1989; Baltimore, Maryland. 366-375.
- Polis, D. F., Salter, M., and Lind, H. 1974. Hydrographic verification of wetland delineation by remote sensing. *Photogrammetric Engineering*. 40(2):75-78.
- Rollet, B., and Damen, M. C. J. 1986. Photo-interpretation of wetland vegetation in the Lesser Antilles (Guadeloupe). Proceedings of the seventh ISPRS Commission symposium; Enschede. Balkema. 499-504.

Rousseau, J. 1984. Remote sensing applications for coastal/marine planning and management in developing countries. Proceedings of the eighteenth meeting of the Association of Island Marine Laboratories of the Caribbean; August 13, 1984; St. James, Trinidad. 3.

Sasser, C. E., Dozier, M. D., Gosselink, J. G. et al. 1986. Spatial and temporal changes in Louisiana's Barataria Basin marshes, 1945-1980. *Environmental Management*. 10(5): 671-680.

Thompson, D. E. 1972. Airborne remote sensing of Georgia tidal marshes. Operational remote sensing: an interactive seminar to evaluate current capabilities; February 1-4, 1972; Houston, Texas. Falls Church, Virginia: American Society of Photogrammetry. 126-139.

Tilton, E. L., III. 1981. Application of space remote sensing technology to living marine resources in coastal zones. *Advances in earth oriented applications of space technology*. 89-96.

Tomlins, G. F., and Thomson, K. P. B. 1981. Toward an operational, satellite-based wetland monitoring program for the Fraser River estuary, British Columbia. Proceedings of the seventh Canadian symposium on remote sensing; Winnipeg, Manitoba. Ottawa, Ontario: Canadian Aeronautics & Space Institute. 74-82.

Turner, R. E. 1987. Aerial imagery interpretation of relationship between canal area and number of new ponds. Proceedings of the eighth annual Gulf of Mexico information transfer meeting; New Orleans, Louisiana. 196-198.

Ulanowicz, R. E. 1974. A survey for the use of remote sensing in the Chemical Bay region. Chesapeake Research Consortium.

Weaver, M. G., Cross, G. H., and Mead, R. A. 1980. Repetitive aerial photography for assessing marsh vegetation change. Technical papers of the American Society of Photogrammetry ACSM-ASP Convention; March 9-14, 1980; St. Louis, Missouri. Falls Church, Virginia: American Society of Photogrammetry. 395-409.

Weismuller, R. A., Kristof, S. J., Scholz, D. K. et al. 1977. Evaluation of change detection techniques for monitoring coastal zone environments. Proceedings of the eleventh international symposium on remote sensing of environment; April 25-29, 1977. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1129-1238.

Whitehurst, C. A., Blanchard, W. A., and Doiron, L. N. 1977. The use of color infrared imagery for the study of marsh buggy tracks. *Photogrammetric Engineering and Remote Sensing*. 1049-1050.

Whitehurst, C. A., and Doiron, L. N. 1974. Geomorphic processes active in the Southwestern Louisiana Canal, Lafourche Parish, Louisiana. Baton Rouge, Louisiana: Louisiana State University, Division of Engineering Research.

Whitehurst, C. A. 1976. Interpretation of remote sensing data in the Bayou Lafourche delta of South Louisiana. Baton Rouge, Louisiana: Louisiana State University.

Williams, D. R., Balogh, M. E., and Foresman, T. W. 1986. Wetlands: a perspective for mapping, monitoring, and modeling. Technical papers of the 1986 fall technical meeting of the American Society of Photogrammetry and Remote Sensing; Anchorage, Alaska. Falls Church, Virginia: ASPRS. 379-380.

Williams, R. S., Jr. 1973. Coastal and submarine features on MSS imagery of southeastern Massachusetts: comparison with conventional maps. Proceedings of the symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 1413-1422.

Yeagen, M. E. 1984. Remote sensing, sedimentation and vegetation distribution within the coastal wetlands, Eastern St. Louis Bay, Mississippi. Brunton, G. D. Mississippi - Alabama Sea Grant Consortium report on modern and ancient sedimentary process and response within the Alabama linear barrier coastal system. Mississippi - Alabama Sea Grant Consortium. 142-152.

## Mangrove

Dobson, J. E., and Bright, E. A. 1991. CoastWatch -- detecting change in coastal wetlands. *Geo Info Systems*. 1(1): 36-40.

Ibrahim, S., and Hashim, I. 1990. Classification of mangrove forest by using 1:40,000-scale aerial photographs. *Forest Ecology and Management*. 33/34: 583-592.

Imhoff, M. L., and Gesch, D. B. 1990. Derivation of a sub-canopy digital terrain model of a flooded forest using synthetic aperture radar. *Photogrammetric Engineering and Remote Sensing*. 1155-1162.

Landsat's role in State Coastal Management Programs. 1979. Washington, DC: National Aeronautics and Space Administration.

Lorenzo, E. N., de Jesus, B. R., Jr., and Jara, R. S. 1979. Assessment of mangrove forest deterioration in Zamboanga Peninsula, Philippines using Landsat MSS data. *Proceedings of the thirteenth international symposium on remote sensing of environment; April 23-27, 1979. Ann Arbor, Michigan: Environmental Research Institute of Michigan*. 1737-1745.

Patterson, S. G. 1986. Mangrove community boundary interpretation and detection of areal changes on Marco Island, Florida: application of digital image processing and remote sensing techniques. Washington, DC: US Department of the Interior.

Roque, C. R., Bina, R. T., Jara, R. S. et al. 1980. Application of Landsat data and selective aerial reconnaissance surveys to mangrove forest resource management in the Philippines. *Proceedings of the fourteenth international symposium on remote sensing of environment; April 23-30, 1980; San Jose, Costa Rica. Ann Arbor, Michigan: Environmental Research Institute of Michigan*. 1225-1226.

Rose, P. W., and Rosendahl, P. C. 1979. Landsat hydrobiological classification for and inland fresh water marsh within Everglades National Park. M. Deutsch, D. R. Wiesnet, and A. Rango, editors. *Proceedings of the fifth annual William T. Pecora memorial symposium on remote sensing: satellite hydrology; June 10-15, 1979; Sioux Falls, South Dakota. Minneapolis, Minnesota: American Water Resources Association*. 485-491.

Terchunian, A., Klemas, V., Segovio, A. et al. 1986. Mangrove mapping in Ecuador: the impact of shrimp pond construction. *Environmental Management*. 10(3): 345-350.

## **Inland Freshwater Marsh**

Adams, D. G., Gentle, G. C., and MacEwan, A. 1980. Documenting a 10-year change in land use and waterfowl habitat from digitized aerial photo-maps. Proceedings of the fifth Canadian symposium on remote sensing; August 1978; Victoria, British Columbia. Ottawa: Canadian Aeronautics and Space Institute. 415-426.

Application of remote sensing technology to land evaluation, planning utilization of land resources, and assessment of wildlife areas in eastern South Dakota: semiannual progress report, 1 July - 31 December 1975. Brookings, South Dakota: South Dakota State University, Remote Sensing Institute.

Barnard, T., MacFarlane, R. J., Neraasen, T. et al. 1981. Waterfowl habitat inventory of Alberta, Saskatchewan and Manitoba by remote sensing. Seventh Canadian symposium on remote sensing; September 8-11, 1981; Winnipeg, Manitoba. 150-158.

Bartlett, D. S., Bartlett, K. B., Hartman, J. M. et al. 1989. Methane emissions from the Florida Everglades: patterns of variability in a regional wetland ecosystem. Global Biogeochemical Cycles GBCYEP. 363-374.

Best, R. G., Moore, D. G., and Brewster, W. G. 1976. Color-infrared aircraft photography to identify and classify wetlands in the Lake Dakota Plain of eastern South Dakota. Brookings, South Dakota: South Dakota State University.

Best, R. G., and Moore, D. G. 1977. Inventory of wetland habitat using remote sensing for the proposed Oahe irrigation unit in eastern South Dakota. Brookings, South Dakota: South Dakota State University.

Best, R. G., and Moore, D. G. 1979. Landsat interpretation of prairie lakes and wetlands of eastern South Dakota. M. Deutsch, D. R. Wiesnet, A. Rango, editors. Proceedings of the fifth annual William T. Pecora memorial symposium on remote sensing: satellite hydrology; June 10-15, 1979; Sioux Falls, South Dakota. Minneapolis, Minnesota: American Water Resources Association. 499-506.

Brown, D., Gamble, J., and Prestin, S. 1973. ERTS-1 applications to Minnesota land use mapping. Proceedings of the symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics Space Administration. 991-997.

Brown, P. C., Scherz, J. P., and Windingstad, R. M. 1983. Remote sensing and avian cholera in Nebraska wetlands. Technical papers of the 1983 ACSM-ASP fall convention; Salt Lake City, Utah. Falls Church, Virginia: American Congress on Surveying & Mapping. 483-492.

Carlson, M. P. 1977. *Applications of remote sensing in resource management in Nebraska: annual report May 1, 1976 - April 30, 1977*. Washington, DC: National Aeronautics and Space Administration.

Carter, V. (undated). Applications of remotely sensed data to wetland studies. J. J. Rycroft, A. C. Strickland, editors. COSPAR: Space Research. Washington, DC: US Geological Survey. 19-23.

Carter, V., Garrett, M. K., Shima, L. et al. 1977. The Great Dismal Swamp: management of a hydrologic resource with the aid of remote sensing. *Water Resources Bulletin*. 13(1):1-12.

Carter, V., and Stewart, W. R. 1975. Seasonal color-infrared photographs for mapping inland wetlands on U.S. Geological Survey 7.5-minute quadrangles. *Proceedings of the fifth color aerial photography workshop*; August 19-21, 1975; Sioux Falls, South Dakota. Falls Church, Virginia: American Society of Photogrammetry. 143-161.

Carter, V., Voss, A., Malone, D. et al. 1976. Wetland classification and mapping in western Tennessee. *Proceedings of the 2nd annual William T. Pecora memorial symposium*; October 25-29, 1976; Sioux Falls, South Dakota. Falls Church, Virginia: American Society of Photogrammetry. 213-234.

Carter, V., Malone, D. L., and Burbank, J. H. 1979. Wetland classification and mapping in western Tennessee. *Photogrammetric Engineering and Remote Sensing*. 45(3): 273-284.

Carter, V., and Smith, D. G. 1973. Utilization of remotely-sensed data in the management of inland wetlands. Anson, A. Management and utilization of remote sensing data: proceedings of a symposium on remote sensing; October 29 - November 1, 1973; Sioux Falls, South Dakota. Falls Church, Virginia: American Society of Photogrammetry. 144-158.

Christensen, E. J., Jensen, J. R., Ramsey, E. W. et al. 1988. Aircraft MSS data registration and vegetation classification for wetland change detection. *International Journal of Remote Sensing*. 9(1): 23-38.

Christensen, E. J., Jensen, J. R., Ramsey, E. W. et al. 1986. Wetland vegetation change detection using high resolution aircraft MSS data. Technical papers of the 1986 ASPRS-ACSM fall convention; Anchorage, Alaska. Falls Church, Virginia: American Society of Photogrammetry & Remote Sensing. 148-162.

Christensen, E. J. 1987. Digital change detection: a quantitative evaluation of image registration and wetland phenological characteristics using high resolution multispectral scanner data. Doctoral dissertation. Columbia, South Carolina: University of South Carolina.

Civco, D. L., Kennard, W. C., and Lefor, M. W. 1978. A technique for evaluating inland wetland photointerpretation: the cell analytical method (CAM). *Photogrammetric Engineering and Remote Sensing*. 44(8): 1045-1052.

Clough, S. R. 1983. Facies development and evolution of fluvial channels in the Cumberland marshes of Saskatchewan, Canada. Master's thesis. Chicago, Illinois: University of Illinois at Chicago.

Coker, A. E., Higer, A. L., Rogers, R. H. et al. 1975. Automatic categorization of land-water cover types of the Green Swamp, Florida, using Skylab Multispectral Scanner (S-192) data. *Proceedings of the NASA earth resources survey symposium*; June 1975. Houston, Texas: Lyndon B. Johnson Space Center, National Aeronautics and Space Administration. 479-506.

Cowardin, L. M., and Myers, V. I. 1974. Remote sensing for identification and classification of wetland vegetation. *Journal of Wildlife Management*. 308-314.

Downs, S. W., Jr, Sharma, G. C., Bagwell, C. (undated). A procedure used for a ground truth study of a land use map of North Alabama generated from Landsat data. Huntsville, Alabama: National Aeronautics and Space Administration.

Drieman, J. A., Leckie, D. G., and Ahern, F. J. 1989. Multitemporal C-SAR for forest typing in eastern Ontario. *Proceedings of IGARSS'89 - twelfth Canadian Symposium on Remote Sensing*; Vancouver, British Columbia. Piscataway, New Jersey: IEEE. 1376-1378.

Dufourmont, H., Longdon, N., and Melita, O. 1989. Interpretability of wetland on Seasat-1 imagery in the polderland of Flanders: a structural approach. *Proceedings of the EARSeL/ESA symposium on remote sensing applications for environmental studies*; Brussels. Noordwijk: Laboratory for Regional Geography and Landscape Studies, State University of Ghent. 129-132.

Estrin, S. A. 1986. The delineation and classification of inland wetlands utilizing FCIR stereo imagery. *Symposium on remote sensing for resources development and environmental management*; August 1986; Enschede. Rotterdam: Balkema. 713-716.

Everitti, J. H., Richardson, A. J., Gerbermann, A. H. et al. 1979. Landsat-2 data for inventorying rangelands in South Texas. *Proceedings of the fifth annual symposium on machine processing of remotely sensed data*; June 27-29, 1979; Purdue University. New York: IEEE. 132-141.

Gammon, P. 1977. Vegetative communities of the Great Dismal Swamp: identification and mapping with seasonal color infrared photographs. *Proceedings of the sixth biennial workshop on aerial color photography in the plant sciences and related fields*; August 9-11, 1977; Colorado State University. Suffolk, Virginia: US Geological Survey, Water Resource Division. 111-131.



Gammon, P. T., Malone, D., Brooks, P. D. et al. 1977. Three approaches to the classification and mapping of inland wetlands. Proceedings of the eleventh international symposium on remote sensing of environment; April 25-29, 1977. Ann Arbor, Michigan: Environmental Research Institute of Michigan 1545-1555.

Gammon, P. T., Rohde, W. G., and Carter, V. 1979. Accuracy evaluation of Landsat digital classification of vegetation in the Great Dismal Swamp. M. Deutsch, D. R. Wiesnet, A. Rango, editors. Proceedings of the fifth annual William T. Pecora memorial symposium on remote sensing; June 10-15, 1979; Sioux Falls, South Dakota. Minneapolis, Minnesota: American Water Resources Association. 463-473.

Garrett, M. K., and Carter, V. 1977. Contribution of remote sensing to habitat evaluation and management in a highly altered ecosystem. Transactions of the forty-second North American wildlife and natural resources conference. Washington, DC: Wildlife Management Institute. 56-65.

Gessler, P., McSweeney, K., Kiefer, R. et al. 1989. Analysis of contemporary and historical soil/vegetation/landuse patterns in southwest Wisconsin utilizing GIS and remote sensing technologies. Technical paper of the 1989 ASPRS/ACSM annual convention; Baltimore, Maryland. Falls Church, Virginia: ASPRS/ACSM. 85-92.

Gilbert, M. C., Freel, M. W., and Bieber, A. 1980. Remote sensing and field evaluation of wetlands in the Sandhills of Nebraska. Omaha, Nebraska: US Army Corps of Engineers, Omaha District.

Gilmer, D. S. 1977. Application of Landsat system for improving methodology for inventory and classification of wetlands. Jamestown, North Dakota: US Fish and Wildlife Service, Northern Prairie Wildlife Research Center.

Gilmer, D. S., Work, E. A., Jr., Colwell, J. E. et al. 1980. Enumeration of prairie wetlands with Landsat and aircraft data. Photogrammetric Engineering and Remote Sensing. 46(5): 631-634.

Gross, M. F., Hardisky, M. A., Doolittle, J. A. et al. 1990. Relationships among depth to frozen soil, soil wetness, and vegetation type and biomass in tundra near Bethel, Alaska, Arctic and Alpine Research. 275-282.

Hawkins, H. 1990. Eye in the sky: satellite imagery aids Florida DOT. Public Works. 60-61.

Hayes, R. O., Maxwell, E. L., Mitchell, C. J. et al. 1985. Detection, identification, and classification of mosquito larval habitats using remote sensing scanners in Earth-orbiting satellites. Bulletin of WHO. 63361-374.

Higer, A. L., Coker, A. E., Schmidt, N. F. et al. 1975. An analysis and comparison of Landsat-1, Skylab (S-192) and aircraft data for delineation of land-water cover types of the Green Swamp, Florida. Miami, Florida: US Geological Survey, Water Resources Division.

Hodgson, M. E., Jensen, J. R., Mackey, H. E., Jr. et al. 1988. Monitoring wood stork foraging habitat using remote sensing and geographic information systems. *Photogrammetric Engineering and Remote Sensing*. 54(11): 1601-1607.

Hodgson, M. E., Jensen, J. R., Mackey, H. E., Jr. et al. 1988. Remote sensing of wetland habitat: a wood stork example. *Photogrammetric Engineering and Remote Sensing*. 53(8): 1075-1080.

Hofstetter, R. H., Sonenshein, R. S. 1990. Vegetative changes in a wetlands in the vicinity of a well field, Dade County, Florida. Tallahassee, Florida: South Florida Water Management District.

Hutton, S. M., and Dincer, T. 1979. Using Landsat imagery to study the Okavango Swamp, Botswana. M. Deutsch, D. R. Wiesnet, and A. Rango, editors. *Proceedings of the fifth annual William T. Pecora memorial symposium on remote sensing*; June 10-15, 1979; Sioux Falls, South Dakota. Minneapolis, Minnesota: American Water Resources Association. 512-519.

Jensen, J. R. 1986. Wetlands proximity mapping of 86 waste sites on the Savannah River Plant. Aiken, South Carolina: Savannah River Laboratory.

Jensen, J. R., Christensen, E. J., and Sharitz, R. 1984. Nontidal wetland mapping in South Carolina using airborne multispectral scanner data. *Remote Sensing of Environment*. 16: 1-12.

Jensen, J. R., Christensen, E. J., and Mackey, H. E., Jr. 1986. Vegetation change detection in the Savannah River Swamp. *Proceedings of the freshwater wetlands and wildlife symposium*; March 24-27, 1986; Charleston, South Carolina.

Jensen, J. R., Coulter, M., Mackey, H. E. et al. 1985. Mapping of wood stork foraging habitat with satellite data. *Proceedings of a combined meeting of Colonial Waterbird Group and Pacific Seabird Group*; December 4, 1985; San Francisco, California. Aiken, South Carolina: Savannah River Ecology Laboratory.

Jensen, J. R., Hodgson, M. E., Christensen, E. J. et al. 1984. Multispectral remote sensing of inland wetlands in South Carolina: selecting the appropriate sensor. *Tenth international symposium on machine processing of remotely sensed data with special emphasis on Thematic Mapper data and geographic information systems*; June 12-14, 1984; Purdue University. West Lafayette, Indiana: Purdue University. 144-152.

Jensen, J. R., Hodgson, M. E., and Mackey, H. E. 1985. Remote sensing forest biomass for loblolly pine using high resolution airborne sensor data. Proceedings of forest land applications symposium; June 25, 1985; Seattle, Washington. Washington, DC: Department of Energy.

Jensen, J. R., Hodgson, M. E., Coulter, M. et al. 1986. Feasibility study of wood stork foraging habitat mapping using Landsat multispectral data. Proceedings of freshwater wetlands and wildlife symposium; March 24, 1986; Charleston, South Carolina. Washington, DC: Department of Energy.

Jensen, J. R., Hodgson, M. E., Christensen, E. et al. 1986. Remote sensing inland wetlands: a multispectral approach. Photogrammetric Engineering and Remote Sensing. 52(1): 87-100.

Jensen, J. R., Hodgson, M. E., Mackey, H. E., Jr. et al. 1987. Correlation between aircraft MSS and LIDAR remotely sensed data on a forested wetland. Geocarto International. 4: 39-54.

Jensen, J. R., Hodgson, M. E., Mackey, H. E., Jr. et al. 1987. Correlation between aircraft MSS and LIDAR remotely sensed data on a forested wetland in South Carolina. Technical papers of the 1987 fall convention of the American Society of Photogrammetry and Remote Sensing; October 4-9, 1987; Reno, Nevada.

Jensen, J. R., Narumalani, S., Weatherbee, O. et al. 1991. Remote sensing offers an alternative for mapping wetlands. Geo Info Systems. 1(9): 46-53.

Jensen, J. R., Ramsey, E. W., Mackey, H. E., Jr. et al. 1986. Inland wetland change detection using aircraft MSS data. Aiken, South Carolina: Savannah River Plant, US Department of Energy.

Jensen, J. R., Ramsey, E. W., Mackey, H. E., Jr. et al. 1987. Inland wetland change detection using aircraft MSS data. Photogrammetric Engineering and Remote Sensing. 53(5): 521-529.

Jones, N. L., and Shahrokhi, F. 1977. Application of Landsat data to wetland study and land use classification in West Tennessee. Proceedings of the eleventh international symposium on remote sensing of environment; April 25-29, 1977. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 609-613.

Karteris, M. A. 1990. Utility of digital Thematic Mapper data for natural resources classification. International Journal of Remote Sensing. 1589-1598.

Keller, M. 1983. The application of remote sensing to wetland delineation for the planning function and regulatory functions in the Memphis District. US Army Corps of Engineers remote sensing symposium; November 7-9, 1983; Reston, Virginia. 437-438.

Kennard, W. C., and Lefor, M. W. 1977. Evaluation of freshwater wetlands definitions. Storrs, Connecticut: Institute of Water Resources, University of Connecticut.

Kirby, R. E. 1976. Mapping wetlands on beaver flowages with 35mm photography. *Canadian Field-Naturalist*. 423-431.

Krabill, W. B., and Swift, R. N. 1985. Airborne LIDAR experiments at the Savannah River Plant. Goddard Space Flight Center, National Aeronautics and Space Administration.

Kristof, S. J., and Mroczynski, R. P. 1981. Mapping hydric soils of Arctic and subarctic wetlands using Landsat MSS data. Proceedings of the 1981 fall meeting of the Indiana Academy of Science; Crawfordsville, Indiana. 549.

Lenco, M., and Dedieu, J.P. 1986. Present state, changes and quality of Sologne and Brenne, two French large wetlands, studied with the MSS and TM Landsat data. ESA/EARSeL symposium on Europe from space; June 25-28, 1986; Lyngby, Denmark. 259-261.

Lewis, A. J., Kim, S. T., Wilson, R. T. et al. 1975. Applied remote sensing of the lower Atchafalaya basin floodway. Proceedings of the tenth international symposium on remote sensing of environment; October 6-10, 1975. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1319-1328.

Liang, T., McNair, A. J., and Philipson, W. R. 1978. Cornell University Remote Sensing Program semiannual status report: December 1, 1977 - May 31, 1978. Washington, DC: National Aeronautics and Space Administration.

Lillesand, T. M., and Meisner, D. E. 1982. Application of scanning micro-densitometer data in selected plant-science case studies. *Journal of Applied Photographic Engineering*. 40-45.

Linde, A. F., and Janisch, T. P. 1978. Cover mapping wetland areas with the aid of 35mm low altitude color photography. Wetlands: ecology, values, and impacts: proceedings of the Waubesa conference on wetlands; June 2-5, 1977; Madison, Wisconsin. 306-323.

Lowe, D. S. 1976. Remote sensing of wetlands, marshes, and shorelines in Michigan including St. John's Marsh: semiannual status report, June 1 - December 1, 1976. Ann Arbor, Michigan: Environmental Research Institute of Michigan.

Lyon, J. G. 1979. Remote sensing analysis of coastal wetland characteristics: the St. Clair Flats, Michigan. Proceedings of the thirteenth international symposium on remote sensing of environment; April 23-27, 1979. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1117-1129.

Lyon, J. G. 1980. Data sources for analyses of Great Lakes wetlands. Technical papers of the American Society of Photogrammetry ACSM-ASP convention; March 9-14, 1980; St. Louis, Missouri. Falls Church, Virginia: American Society of Photogrammetry. 516-528.

Lyon, J. G. 1989. Remote sensing of suspended sediments and wetlands in western Lake Erie. NOAA estuary of the month seminar series: Lake Erie estuarine systems -- issues, resources, status and management. Washington, DC: National Oceanic and Atmospheric Administration. 125-147.

Mackey, H. E., Jr. 1989. Macrophyte mapping in ten lakes of South Carolina with multispectral SPOT HRV data. Special session of the summer American Society of Limnology and Oceanography, Proceedings; June 18-22, 1989; Fairbanks, Alaska.

Mackey, H. E., Jr., Jensen, J. R., Hodgson, M. E. et al. 1987. Color infrared video mapping of upland and wetland communities. Proceedings of the eleventh biennial workshop on color aerial photography in the plant sciences; April 27 - May 1, 1987; Weslaco, Texas.

Mackey, H. E., and Jensen, J. R. 1987. Remote sensing of wetlands - applications overview. First special workshop on videography; May 19-20, 1988. Terre Haute, Indiana: Indiana State University.

Mackey, H. E., Jr., and Jensen, J. R. 1989. Wetlands mapping with multispectral SPOT HRV data. Technical papers of the 1989 ASPRS/ACSM annual convention; April 2-7, 1989; Baltimore, Maryland. 356-365.

Marlar, T. L., Palazzo, A. J., and Randall, A. D. 1981. Report on selected wetland mapping programs and their application to the regulatory efforts of the New England Division, Corps of Engineers. US Army Corps of Engineers: proceedings of the remote sensing symposium; November 30 - December 2, 1981; Nashville, Tennessee.

Mead, R. A., and Gammon, P. T. 1981. Mapping wetlands using orthophotographs and 35-mm aerial photographs. Photogrammetric Engineering and Remote Sensing. 47(5): 649-652.

Mergerson, J. W. 1981. Crop area estimation using ground-gathered and sampled Landsat data. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 45-51.

Merry, C. J., Green, G., Devendorf, R. et al. 1984. Wildlife habitat mapping in Lac Qui Parle, Minnesota. SPOT simulation applications handbook: proceedings of the 1984 SPOT symposium; May 20-23, 1984; Scottsdale, Arizona. 205-208.

Miller, W. F., Carter, B. D., Solomon, J. L. et al. 1980. Application of remote sensing to state and regional problems: semiannual progress report, May 1 - October 31, 1980. Washington, DC: National Aeronautics and Space Administration.

Moor, J. H. 1981. Remote sensing in Alaska: opportunities and policy implications. Proceedings of the western regional remote sensing conference; Monterey, California. Moffett Field, California: NASA Ames Research Center. 43-48.

Morrow, J. W., Carter, V., and MacEwan, A. 1980. Wetland classification on the Alaskan north slope. Proceedings of the fifth Canadian symposium on remote sensing; August, 1978; Victoria, British Columbia. Ottawa: Canadian Aeronautics and Space Institute. 94-103.

Mower, R. D., and Heinrich, M. L. 1977. Computer processed (Landsat) land cover map of North Dakota. Technical papers selected from the annual conference on remote sensing of earth resources; March 29-31, 1977. Tullahoma, Tennessee: University of Tennessee. 295-307.

Myers, V. I., Cox, T. L., and Best, R. G. 1976. Application of remote sensing technology to land evaluation, planning utilization of land resources, and assessment of wetland habitat in eastern South Dakota, Parts 1 and 2: annual progress report July 1, 1975 - June 30, 1976. Washington, DC: National Aeronautics and Space Administration.

Neraasen, T. G., Macaulay, A. J., and Mroczynski, R. P. 1981. Pintails and pixels: a potential application of Landsat technology to waterfowl habitat inventory. P. G. Burroff, and D. B. Morrison, editors. Seventh international symposium machine processing of remotely sensing data with special emphasis on range, forest and wetlands assessment; June 23-26, 1981; Purdue University. West Lafayette, Indiana: Purdue University. 214-218.

Novikov, S. M. 1988. Up-to-date method to study marsh-ridden areas in West Siberia. Proceedings of the international symposium on the hydrology of wetlands in temperate and cold regions; June 6-8, 1988; Joensuu, Finland. Helsinki, Finland: The Academy of Finland. 14-17.

Parrott, W. R., Jr., Reynolds, P. E., Hain, D. C. et al. 1981. Computer mapping of seasonal groundwater fluctuations for two differing southern New Jersey swamp forests. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 653-667.

Peddle, D. R., and Franklin, S. E. 1989. High resolution satellite image texture for moderate relief terrain analysis. Proceedings of IGARSS'89 - twelfth Canadian symposium on remote sensing; Vancouver, British Columbia. 653-655.

Pelletier, R. E., and Dow, D. D. 1989. Monitoring the inundation extent of the Florida Everglades with AVHRR data in a geographic information system. Technical papers of the 1989 ASPRS/ACSM annual convention; April 2-7, 1989; Baltimore, Maryland. 266-275.

Penney, M. E., and Gordon, H. H. 1975. Remote sensing of wetlands in Virginia. Proceedings of the tenth international symposium on remote sensing of environment; October 6-10, 1975. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 495-503.

Peters, D. D. 1989. Status and trends of wetlands in the California Central Valley. Wetlands: Concerns and Successes. September: 33-44.

Pickering, S. M., and Jones, R. C. 1974. Geologic evaluation and applications of ERTS-1 imagery over Georgia. Proceedings of the third Earth Resources Technology Satellite symposium. Washington, D.C.: National Aeronautics and Space Administration. 41-49.

Queen, L., Rundquist, D., Budde, P. et al. 1984. "TIMS" thermal-infrared analysis of selected landscape parameters: the Nebraska Sandhills. Proceedings of the international symposium on remote sensing of environment; Colorado Springs, Colorado. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 303-313.

Ramsey, E. W. III, and Jensen, J. R. 1988. The derivation and verification of surface reflectances using airborne MSS data and a radiative transfer model. Technical papers of the 1988 fall technical meeting of the American Society of Photogrammetry and Remote Sensing; September 11-16, 1988; Virginia Beach, Virginia.

Rapley, C. G., Guzkowska, M. A. J., Cudlip, W. et al. 1987. Altimeter studies of inland water and land in preparation for ERTS-1. Proceedings of the IGARSS '87 symposium; Ann Arbor, Michigan. New York: IEEE. 241.

Rapley, C. G., Guzkowska, M. A. J., Cudlip, W. et al. 1987. Exploratory study of inland water and land altimetry using Seasat data: final report. Washington, DC: National Aeronautics and Space Administration.

Redfield, A. E., and Thom, K. S. 1980. Use of CIR and airborne multi-spectral scanner techniques for wetland soilsmapping of highway corridors. Proceedings of the sixth annual symposium on machine processing of remotely sensed data and soil infrared systems; June 3-6, 1980; Purdue University. New York: IEEE. 205-213.

Reeves, C. C., Jr. 1973. Dynamics of playa lakes in the Texas high plains. Proceedings of the symposium on significant results obtained from the Earth Resources Technology Satellite-1. Washington, DC: National Aeronautics and Space Administration. 809-817.

Rehder, J., and Quattrochi, D. 1978. The verification of Landsat data in the geographical analysis of wetlands in West Tennessee. Knoxville, Tennessee: University of Tennessee.

Ronshagen, C. S. Breedlove Dennis & Assoc Inc, Orlando, Fl, and Carlson, G. L., Breedlove, B. W. 1989. Integrating CAD/GIS for environmental planning: a case study. Technical papers of the 1989 fall meeting of the ASPRS; September 17-21, 1989; Cleveland, Ohio. Falls Church, Virginia: ASPRS. 7-13.

Rundquist, D. C. 1983. Wetland inventories of Nebraska's Sandhills. Resource report. Lincoln, Nebraska: University of Nebraska, Conservation and Survey Division. 9.

Rundquist, D. C., and Gilbert, M. C. 1979. Wetland mapping using Landsat. US Army Corps of Engineers remote sensing symposium; October 29-31, 1979; Reston, Virginia. 329-332.

Rundquist, D. C., Lawson, M. P., Queen, L. P. et al. 1987. Relationship between summer-season rainfall events and lake-surface area. Water Resources Bulletin. 493-508.

Ruth, B. E., Degner, J. D., and Brooks, H. K. 1980. Sanitary landfill site selection by remote sensing. Transportation Engineering Journal, American Society of Civil Engineers. 661-675.

Sather-Blair, S., Linder, R. L., and Moore, D. G. 1980. Pheasant use of wetlands during the winter and application of Landsat imagery for assessing winter habitat ( South Dakota). Brookings, South Dakota: South Dakota State University.

Scarpace, F. L., Quirk, B. K., Kiefer, R. W. et al. 1975. Wetland mapping from digitized aerial photography. Photogrammetric Engineering and Remote Sensing. 47(6): 829-838.

SeEVERS, P. M., Peterson, R. M., Mahoney, D. J. et al. 1975. A wetlands inventory of the state of Nebraska using ERTS-1 imagery. Remote sensing of earth resources: volume IV. Tullahoma, Tennessee: University of Tennessee. 281-292.

Shahrokhi, F., Dyer, E. B., and Anonymous. 1977. Application of Landsat data to wetland study and land use classification in West Tennessee. Proceedings of the 32nd annual meeting of the Soil Conservation Society of America; Richmond, Virginia. 117-119.



Steffensen, R., and Smith, A. M. 1978. An analysis of the spatial and temporal distribution of surficial waters in the Minnedosa wetland district of Manitoba, Canada. *Proceedings of the twelfth international symposium on remote sensing of environment*; April 20, 1978; Quezon City, Phillippines. Ann Arbor, Michigan: Environmental Research Institute of Michigan.

Stewart, W. R., Carter, V., and Brooks, P. D. 1980. Inland (non-tidal) wetland mapping. *Photogrammetric Engineering and Remote Sensing*. 46(5): 617-628.

Still, D. A., and Shih, S. F. 1985. Using Landsat data to classify land use for assessing the basinwide runoff index. *Water Resources Bulletin*. 931-940.

Thompson, M. D., and Dams, R. V. 1986. Remote sensing as a tool for Alberta agricultural wetlands drainage inventory. M. D. Thompson, and R. J. Brown, editors. *Proceedings of the tenth Canadian symposium on remote sensing*; May 5-8, 1986; Edmonton, Alberta. 829-840.

The use of color infrared photography for wetlands mapping with special reference to shoreline and waterfowl habitat assessment project for the use of remote sensing in land use policy formulation. 1973. East Lansing, Michigan: Michigan State University.

Van Tries, B. J. 1973. An evaluation of space acquired data as a tool for management of wildlife habitat in Alaska. *Proceedings of the symposium on significant results obtained from the Earth Resources Technology Satellite-1*. National Aeronautics and Space Administration. 795-799.

Wadsworth, J. R., Jr. 1983. Quantitative analysis of a subtle terrace bordering Okefenokee Swamp. *Proceedings of the 32nd annual meeting, Southeastern Section, Geological Society of America*; with the Southeast Section of the National Association of Geology Teachers and the Southeastern Section of the Paleontological Society; Tallahassee, Florida. Geological Society of America. 56.

Wadsworth, J. R. Jr., Brook, G. A., and Carver, R. E. 1983. Surface expression of heavily mantled interstratal karst bordering Okefenokee Swamp, Georgia. *Technical papers of the 1983 annual meeting of the American Society of Photogrammetry*; Washington, DC, USA. Falls Church, Virginia: ASPRS. 463-470.

Watson, E. K., and Van Ryswyk, A. L. 1981. Remote sensing applications for British Columbia wetlands using 35mm aerial photography. *Proceedings of the seventh Canadian Symposium on remote sensing*; Winnipeg, Manitoba. Ottawa: Canadian Aeronautics & Space Institute. 211-221.

Werth, L. F., and Meyer, M. P. 1979. A comparison of remote sensing techniques for Minnesota wetlands classification. M. Deutsch, D. R. Wiesnet, and A. Rango, editors. Proceedings of the fifth annual William T. Pecora memorial symposium on remote sensing: satellite hydrology; June 10-15, 1979; Sioux Falls, South Dakota. Minneapolis, Minnesota: American Water Resources Association. 492-498.

Wharton, S., Ormsby, J., Salomonson, V. et al. 1984. Landsat Thematic Mapper studies of land cover spatial variability related to hydrology. Remote sensing from satellites. National Aeronautics and Space Administration. 217-226.

Wickware, G. M., and MacEwan, A. 1980. Wetland mapping and environmental monitoring using digital Landsat data. Proceedings of the fifth Canadian symposium on remote sensing; August, 1978; Victoria, British Columbia. Ottawa: Canadian Aeronautics and Space Institute. 150-157.

Wickware, G. M., and Howarth, P. J. 1981. Change detection in the Peace-Athabasca Delta using digital Landsat data. Remote Sensing of Environment. 11: 9-25.

Wilkie, D. S., and Larson, J. S. 1980. Municipal wells, land development and freshwater wetlands in Massachusetts. Amherst, Massachusetts: University of Massachusetts, Water Resources Research Center.

Wood, B. L. 1983. Wetland mapping in Colusa county, California. Proceedings of the Society of American Foresters international renewable resource inventories for monitoring conference; August 15-19, 1983; Corvallis, Oregon. 345-349.

Work, E. A., Jr., Gilmer, D. S., and Klett, A. T. 1973. Preliminary evaluation of ERTS-1 for determining numbers and distribution of prairie ponds and lakes. Proceedings of the symposium on significant results obtained from the Earth Resources Technology Satellite-1. National Aeronautics and Space Administration. 801-808.

Wynn, S. L., and Kiefer, R. W. 1985. Aerial photography and ground verification at power plant sites: Wisconsin power plant impact study. Madison, Wisconsin: University of Wisconsin.

Wynn, S. L., and Kiefer, R. W. 1977. Monitoring vegetation changes in a large impacted wetland using quantitative field data and quantitative remote sensing data. Conference proceedings of the fourth joint conference on sensing of environmental pollutants; November 6-11, 1977; New Orleans, Louisiana. 178-180.

## Northern Peatland

Korpijaakko, E. A. 1975. Preliminary muskeg (peatland) inventory of the Province of New Brunswick. *Canadian Journal of Earth Sciences*. 24-27.

Mace, A. C., Jr. 1973. Evaluation of peatland water table elevation and water quality indicators. Applications of aerial photography and ERTS data to agricultural, forest and water resources management. St. Paul, Minnesota: Institute of Agriculture Remote Sensing Laboratory, University of Minnesota. 23-34.

Pala, S. 1984. Operational peatland inventory in Ontario based on Landsat MSS analysis. Proceedings of the eighteenth international symposium on remote sensing of environment; October 1-5, 1984; Paris, France. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1962-1972.

Pala, S. 1984. TM vs. MSS in operational peatland inventory. Proceedings of the eighteenth international symposium on remote sensing of the environment; Paris, France. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1961-1972.

Slater, F. M. 1984. The mineral contents of both peat and plants and their inter-relationships at Borth Bog, Wales. Proceedings of the seventh international peat congress; Dublin, Ireland. 450-467.

Smith, J. M. 1988. Landsat TM study of afforestation in Northern Scotland and its impact on breeding bird populations. Proceedings of the IGARSS'88 symposium; Edinburgh, UK. New York: IEEE. 1369-1370.

Stewart, W. R., Carter, V., and Brooks, P. D. 1980. Inland (non-tidal) wetland mapping. *Photogrammetric Engineering and Remote Sensing*. 46(5):617-628.

Watson, E. K., and Van Ryswyk, A. L. 1981. Remote sensing applications for British Columbia wetlands using 35mm aerial photography. Proceedings of the seventh Canadian Symposium on remote sensing; Winnipeg, Manitoba. Ottawa: Canadian Aeronautics & Space Institute. 211-221.

## Southern Deepwater Swamp

Jensen, J. R., Hale, A., and Mackey, H. E. 1986. Vegetational stress detection in a Southeastern swamp floodplain using remote sensing and in-situ spectral measurements. Proceedings of freshwater wetlands and wildlife symposium; March 24, 1986; Charleston, South Carolina. Washington, DC: Department of Energy.

Jensen, J. R., Christensen, E. J., and Sharitz, R. 1984. Nontidal wetland mapping in South Carolina using airborne multispectral scanner data. Remote Sensing of Environment. 16: 1-12.

Jensen, J. R., Christensen, E. J., and Mackey, H. E., Jr. 1986. Vegetation change detection in the Savannah River Swamp. Proceedings of the freshwater wetlands and wildlife symposium; March 24-27, 1986; Charleston, South Carolina.

Jensen, J. R., Hodgson, M. E., Mackey, H. E., Jr. et al. 1987. Correlation between aircraft MSS and LIDAR remotely sensed data on a forested wetland. Geocarto International. 4: 39-54.

Jensen, J. R., Hodgson, M. E., Mackey, H. E., Jr. et al. 1987. Correlation between aircraft MSS and LIDAR remotely sensed data on a forested wetland in South Carolina. Technical papers of the 1987 fall convention of the American Society of Photogrammetry and Remote Sensing; October 4-9, 1987; Reno, Nevada.

Jensen, J. R., Ramsey, E. W., Mackey, H. E., Jr. et al. 1986. Inland wetland change detection using aircraft MSS data. Aiken, South Carolina: Savannah River Plant, US Department of Energy.

Jensen, J. R., Ramsey, E. W., Mackey, H. E., Jr. et al. 1987. Inland wetland change detection using aircraft MSS data. Photogrammetric Engineering and Remote Sensing. 53(5): 521-529.

Keller, M. 1983. The application of remote sensing to wetland delineation for the planning function and regulatory functions in the Memphis District. US Army Corps of Engineers remote sensing symposium; November 7-9, 1983; Reston, Virginia. 437-438.

Krabill, W. B., and Swift, R. N. 1985. Airborne LIDAR experiments at the Savannah River Plant. Goddard Space Flight Center, National Aeronautics and Space Administration.

Lewis, A. J., Kim, S. T., Wilson, R. T. et al. 1975. Applied remote sensing of the lower Atchafalaya basin floodway. Proceedings of the tenth international symposium on remote sensing of environment; October 6-10, 1975. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1319-1328.

Ruzek, M., and Hoffer, R. 1985. Seasat and SIR-B: a comparison of a forest test site. Proceedings of the IGARSS '85 symposium; Amherst, Massachusetts. New York: IEEE. 579.

Stewart, W. R., Carter, V., and Brooks, P. D. 1980. Inland (non-tidal) wetland mapping. Photogrammetric Engineering and Remote Sensing. 46(5): 617-628.

Tilton, E. L., III. 1983. Information extraction from thematic mapper data. Proceedings of the 34th congress of the International Astronautical Federation; Budapest, Hungary. New York: AIAA.

## **Riparian Wetland**

Anderson, P. H. 1977. Delineation of deciduous wetland forests in north-eastern Connecticut. Storrs, Connecticut: University of Connecticut.

Anderson, P. H., Lefor, M. W., and Kennard, W. C. 1980. Forested wetlands in eastern Connecticut: their transition zones and delineation. *Water Resources Bulletin*. 248-255.

Bogucki, D. J., and Gruendling, G. K. 1978. Remote sensing to identify, assess and predict ecological impact on Lake Champlain wetlands. Plattsburgh, New York: State University of New York.

Chase, P. E., Reed, L., and Smith, V. E. 1973. Utilization of ERTS-1 data to monitor and classify eutrophication of inland lakes. Symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 1597-1604.

Cummins, K. W., and Mahan, D. C. 1976. The relationship between watershed use and stream water quality: report for December 1, 1974 - December 31, 1975. East Lansing, Michigan: Michigan State University, Institute of Water Research.

Giddings, L., and Choudhury, B. J. 1989. Observation of hydrological features with Nimbus-7 37 GHz data, applied to South America. *International Journal of Remote Sensing*. 1673-1686.

Guindon, B., Goodenough, D. G., Teillet, P. M. et al. 1981. The role of digital terrain models in the remote sensing of forests. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University.

Haugen, R. K., McKim, H. L., and Marlar, T. L. 1976. Remote sensing of land use and water quality relationships - Wisconsin Shore, Lake Michigan. Available from the National Technical Information Service, Springfield, VA 22161 as AD-A030 746, Price codes: A04 in paper copy, A01 in microfiche. Report 76-30, August 1976. 47 p, 22 fig, 11 tab, 23 ref. NASA SR/T 160-75-89-05-10. Hanover, New Hampshire: US Army Engineers Cold Regions Research and Engineering Laboratory.

Hewitt, M. J., III. 1990. Synoptic inventory of riparian ecosystems: the utility of Landsat Thematic Mapper data. *Forest Ecology and Management*. 33/34: 605-620.

Howland, W. G. 1977. Vegetation mapping from color aerial photography of Lake Champlain wetlands. F. Shahrokhi, editor. Remote sensing of earth resources; March 29-31, 1977. Tullahoma, Tennessee: The University of Tennessee. 9-23.

Howland, W. G. 1980. Multispectral aerial photography for wetland vegetation mapping. Photogrammetric Engineering and Remote Sensing. 46(1): 87-99.

Jackson, T. J., Ragan, R. M., and McCuen, R. H. 1975. Land use classification for hydrologic models using interactive machine classification of Landsat data. Proceedings of the NASA Earth Resources Survey Symposium; June 9-12, 1975. Houston, Texas: National Aeronautics and Space Administration. 2365-2378.

Johnston, I. L., and Howarth, P. J. 1981. Enhancement of Landsat data for Hudson Bay lowlands vegetation. Proceedings of the fifteenth international symposium on remote sensing of environment; May 11-15, 1981. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 623-633.

Keller, M. 1983. The application of remote sensing to wetland delineation for the planning function and regulatory functions in the Memphis District. US Army Corps of Engineers remote sensing symposium; November 7-9, 1983; Reston, Virginia. 437-438.

Kessler, R. 1987. Applications of imaging radar for classification of forest vegetation. Photogrammetria. 41: 221-232.

Krieger, K. A. 1989. Lake Erie estuarine systems: issues, resources, status, and management. NOAA Estuary-of-the-Month Seminar Series No. 14.

Lewis, A. J., Kim, S. T., Wilson, R. T. et al. 1975. Applied remote sensing of the lower Atchafalaya basin floodway. Proceedings of the tenth international symposium on remote sensing of environment; October 6-10, 1975. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1319-1328.

Lind, A. O., Henson, E. B., and Pelton, J. 1973. Environmental Study of ERTS-1 imagery: Lake Champlain and Vermont. Symposium on significant results obtained from the Earth Resources Technology Satellite-1. National Aeronautics and Space Administration. 643-650.

Lind, A. O., and Howland, W. G. 1975. Vegetation mapping in Lake Champlain wetlands. Burlington, Vermont: Vermont Water Resources Research Center.

Lowe, D. S. 1976. Remote sensing of wetlands, marshes, and shorelines in Michigan including St. John's Marsh: semiannual status report, June 1 - December 1, 1976. Ann Arbor, Michigan: Environmental Research Institute of Michigan.

Lunetta, R. S., Bong, S. S., and Stoll, J. K. 1985. Using remotely sensed data to map vegetative cover for habitat evaluation in the Saginaw River Basin. US Army Corps of Engineers fifth remote sensing symposium; October 28-30, 1985. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 150-159.

Lyon, J. G. 1979. Remote sensing analysis of coastal wetland characteristics: the St. Clair Flats, Michigan. Proceedings of the thirteenth international symposium on remote sensing of environment; April 23-27, 1979. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1117-1129.

Lyon, J. G. 1981. Inventory of coastal wetlands. Proceedings of the sixth biennial international estuarine research conference; November 1-5, 1981; Gleneden Beach, Oregon. 268.

Lyon, J. G. 1989. Remote sensing of suspended sediments and wetlands in western Lake Erie. NOAA estuary of the month seminar series: Lake Erie estuarine systems -- issues, resources, status and management. Washington, D.C.: National Oceanic and Atmospheric Administration. 125-147.

Matraw, H. C., Jr., and Elder, J. F. 1980. Nutrient yield of the Apalachicola River Flood Plain, Florida: river-quality assessment plan. Washington, DC: US Geological Survey, Water Resources Investigations.

Mellor, J. C. 1983. Use of seasonal windows for radar and other image acquisition and Arctic lake region management. Proceedings of permafrost: fourth international conference; Fairbanks, Alaska. 832-837.

Morrow, J. W., Carter, V., MacEwan, A. 1983. Wetland classification on the Alaskan north slope. Proceedings of the fifth Canadian symposium on remote sensing; August, 1978; Victoria, British Columbia. Ottawa: Canadian Aeronautics and Space Institute. 94-103.

Oslin, A. J. 1988. GIS to integrate remote sensing and CADD for engineering and environmental studies. GIS/LIS '88: Proceedings of the third international conference; San Antonio, Texas. ASPRS/ACSM. 407-416.

Parks, W. L., Sewell, J. I., Hilty, J. W., et al. 1974. Utilizing ERTS imagery to detect plant diseases and nutrient deficiencies, soil types and soil moisture levels. Knoxville, Tennessee: University of Tennessee.



Pearlstine, L., and Kitchens, W. 1985. Community succession modeling for resource management. Coastal Zone '85: proceedings of the fourth symposium on coastal and ocean management; Baltimore, Maryland. New York: ASCE. 1369-1381.

Place, J. L. 1982. Test of airborne radar for mapping two types of land cover: forested wetland and perennial snow or ice. Reston, Virginia: US Department of Interior, US Geological Survey.

Pluhowski, E. J. 1989. Application of remotely sensed land-use information to improve estimates of streamflow characteristics. US Geological Survey Open File Report.

Pratt, T. R., Clewell, A. F., and Cleckley, W. O. 1989. Principal vegetation communities of the Choctawhatchee River flood plain, Northwest Florida. Wetlands: Concerns and Successes. September: 91-99.

Quattrochi, D. A. 1983. An initial analysis of Landsat-4 Thematic Mapper data for the discrimination of agricultural, forested wetland, and urban land covers. J. Barker, editor. Proceedings of the Landsat-4 early results symposium and the Landsat science characterization workshop; February 22-24, 1983 and December 6, 1983. Greenbelt, Maryland: Goddard Space Flight Center and National Aeronautics and Space Administration. 111-112.

Ringrose, S., Matheson, W., and Boyle, T. 1988. Differentiation of ecological zones in the Okavango Delta, Botswana, by classification and contextual analyses of Landsat MSS data. Photogrammetric Engineering and Remote Sensing. 601-608.

Rosema, A., and Fiselier, J. L. 1990. Meteosat-based evapotranspiration and thermal inertia mapping for monitoring transgression in the Lake Chad Region and Niger Delta. International Journal of Remote Sensing. 11(5): 741-752.

Seevers, P. M., Peterson, R. M., Mahoney, D. J. et al. 1975. A wetlands inventory of the state of Nebraska using ERTS-1 imagery. Remote sensing of earth resources: volume IV. Tullahoma, Tennessee: University of Tennessee. 281-292.

Shahrokhi, F., Dyer, E. B., and Anonymous. 1977. Application of Landsat data to wetland study and land use classification in West Tennessee. Proceedings of the 32nd annual meeting of the Soil Conservation Society of America Richmond, Virginia. 117-119.

Sharma, R. C., and Bhargawa, G. P. 1988. Landsat imagery for mapping saline soils and wet lands in North-West India. International Journal of Remote Sensing. 1988.

Shen, Y. 1980. Landforms and reclamation measures in the Three-Rivers Plain, Heilongjiang Province, China. *Acta Geographica Sinica*. 35: 126-136.

Stewart, W. R., Carter, V., and Brooks, P. D. 1980. Inland (non-tidal) wetland mapping. *Photogrammetric Engineering and Remote Sensing*. 46(5): 617-628.

Stoeckeler, E. G., Farrell, R. S., and Woodman, R. G. 1974. To develop a land use-peak runoff classification system for highway engineering purposes. August, Maine: Maine Department of Transportation.

Wharton, S., Ormsby, J., Salomonson, V. et al. 1984. Landsat Thematic Mapper studies of land cover spatial variability related to hydrology. Remote sensing from satellites. National Aeronautics and Space Administration. 217-226.

## **Submerged Aquatic Vegetation**

Ackleson, S. G., and Klemas, V. 1987. Remote sensing of submerged aquatic vegetation in lower Chesapeake Bay: a comparison of Landsat MSS to TM imagery. *Remote Sensing of Environment*. 22: 235-248.

Ackleson, S. G., and Klemas, V. 1983. Remote reconnaissance of submerged aquatic vegetation: a radiative transfer approach. US Army Corps of Engineers remote sensing symposium; November 7-9, 1983; Reston, Virginia. 197-211.

Andrews, D. S., Webb, D. H., and Bates, A. L. 1983. Use of aerial remote sensing in quantifying submersed aquatic macrophytes. Symposium on ecological assessment of macrophyton: collection, use, and meaning of data; January 15-16, 1983; Fort Lauderdale, Florida. Chattanooga, Tennessee: Tennessee Valley Authority. 92-99.

Bina, R. T., Jara, R., Lorenzo, E. et al. 1978. Detection and monitoring of water hyacinth (*Eichhornia crassipes*) infestation in Laguna de Bay through multispectral digital analysis of Landsat imageries. Proceedings of the twelfth international symposium on remote sensing of environment; April 20-26, 1978. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1791-1798.

Golterman, H. L., Clymo, R. S., Best, E. P. H. et al. 1988. Methods of exploration and analysis of the environment of aquatic vegetation. *Handbook of Vegetation Science Series Vol. 15/1: Vegetation of inland waters*. Boston, Massachusetts: Kluwer Academic Publishers. 31-62.

Link, L. E., and Long, K. S. 1979. Aquatic plant mapping by remote sensing. US Army Corps of Engineers remote sensing symposium; October 29-31, 1979; Reston, Virginia. 345-351.

Link, L. E., and Long, K. S. 1978. Large-scale demonstration of aquatic plant mapping by remote sensing. Proceedings of the twelfth international symposium on remote sensing of environment; April 20-26, 1978. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 907-915.

Long, K. S., and Link, L. E., Jr. 1977. Remote sensing of aquatic plants. Proceedings of the eleventh international symposium on remote sensing of environment; April 25-29, 1977. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 817-826.

Raitala, J., Jantunen, H., and Lampinen, J. 1985. Application of Landsat satellite data for mapping aquatic areas in north-eastern Finland. *Aquatic Botany*. 21: 285-294.

## **Regional Wetland Mapping**

Anderson, R. R., and Wobber, F. J. 1973. Wetlands mapping in New Jersey. *Photogrammetric Engineering*. 39(4): 353-358.

Anuskiewicz, T., and Meador, R. 1982. Resourceful decisions: Landsat in Michigan. Detroit, Michigan: Michigan Energy and Resource Research Association.

Application of remote sensing technology to land evaluation, planning utilization of land resources, and assessment of wildlife areas in eastern South Dakota: semiannual progress report, 1 July - 31 December 1975. Brookings, South Dakota: South Dakota State University, Remote Sensing Institute.

Baldrige, P. E., Goesling, P. H., Leone, F. et al. 1975. Ohio's statewide land use inventory: an operational approach for applying Landsat data to state, regional and local planning programs. Proceedings of the NASA earth resources survey symposium; June 9-12, 1975. Houston, Texas: National Aeronautics and Space Administration. 1541-1552.

Bartlett, D., Klemas, V., Philpot, W. et al. 1975. Applications of remote-sensing technology to environmental problems of Delaware and Delaware Bay. NASA earth resources survey symposium. Houston, Texas: National Aeronautics and Space Administration. 188-194.

Boemare, A., and Lenco, M. 1984. Study of Landscape Units, Ecozones and Biophysical Land Use in France's Drome Department Using Landsat Data. Proceedings of the eighteenth international symposium on remote sensing of environment; Paris, France. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 595-602.

Boissonneau, A. N., and Jeglum, J. K. 1975. A regional level of wetlands mapping for the northern Clay section of Ontario. Third Canadian symposium on remote sensing; September 22-24, 1975; Edmonton, Alberta. Ottawa: Canadian Aeronautics and Space Institute. 349-357.

Bond, A. D., Atkinson, R. J., Lybanon, M. et al. 1977. Digital computer processing of Landsat data for North Alabama. Huntsville, Alabama: Computer Sciences Corporation.

Brown, D., and Skaggs, R. 1974. Remote sensing applications to hydrology in Minnesota. A study of Minnesota forests and lakes using data from Earth Resources Technology Satellites: twenty-four month progress report. Minneapolis, Minnesota: University of Minnesota, Space Science Center. 81-196.

Brown, W. W. 1978. Wetland mapping in New Jersey and New York. *Photogrammetric Engineering and Remote Sensing*. 44(3): 303-314.

Bussom, D. E., Samson, S. A., and Rundquist, D. C. 1981. The wetlands inventory of the northern Great Plains: an example of operational remote sensing and data management. B. F. Richason, Jr., editor. Proceedings of Pecora VII symposium -- remote sensing: an input to geographic information systems in the 1980's; October 18-21, 1981; Sioux Falls, South Dakota. 373-382.

Butera, M. K. 1979. Demonstration of Wetland Vegetation Mapping in Florida From Computer-Processed Satellite and Aircraft Multispectral Scanner Data. National Aeronautics and Space Administration.

Chime, L. R., Gnauck, G. E., and Maragos, J. Hawaii wetlands mapping. Coastal Zone '7. 1223-1241.

Clapp, J. L., Kiefer, R. W., McCarthy, M. M. et al. 1973. The use of ERTS-1 data for the inventory of critical land resources for regional land use planning. Proceedings of the symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 1007-1014.

Crapper, P. F. 1983. Review of current Australian work on the application of Landsat to land transformation processes. Study of land transformation processes from space and ground observations: proceedings of symposium 10 of the COSPAR 24th plenary meeting; Ottawa. New York: Pergamon Press. 161-165.

Dallam, W. C., Rango, A., and Shima, L. 1975. Hydrologic land use classification of the Patuxent River Watershed using remotely sensed data. Proceedings of the NASA Earth Resources Survey Symposium; June 9-12, 1975. Houston, Texas: National Aeronautics and Space Administration. 2351-2364.

Everitti, J. H., Richardson, A. J., Gerbermann, A. H. et al. 1979. Landsat-2 data for inventorying rangelands in South Texas. Proceedings of the fifth annual symposium on machine processing of remotely sensed data; June 27-29, 1979; Purdue University. New York: IEEE. 132-141.

Frazier, B. E., Kiefer, R. W., and Krauskopf, T. M. 1975. Statewide wet land mapping using Landsat imagery. F. Shaahrokhi, editor. Remote sensing of earth resources: technical papers selected from the fourth annual remote sensing of earth resources conference; March 24-26, 1975. Tullahoma, Tennessee: The University of Tennessee Space Institute. 267-280.

Giglierano, J. D. 1990. Geographic information system: Johnson County study. Iowa Geology. 10-11.

Hampson, P. S. 1984. Wetlands in Florida. Tallahassee, Florida: Florida Bureau of Geology.

Hardin, D. L. 1985. Remote sensing of wetlands for fish and wildlife habitat management in Delaware -- a comparison of data sources. Integration of remote sensed data in geographic information systems for processing of global resource information: proceedings of a working group meeting; May 29-31, 1985; Washington, DC. 31-38.

Howard, A. D., Remson, I., Dickinson, W. R. et al. 1978. Geology in environmental planning. New York: McGraw-Hill Book Co.

Johnson, H. D. 1981. State (California) resource management and role of remote sensing. Proceedings of the western regional remote sensing conference: Monterey, California. Moffett Field, California: NASA Ames Research Center. 20-25.

Klemas, V. 1978. Application of Landsat to the management of Delaware's marine and wetland resources. Newark, Delaware: Center for Remote Sensing, University of Delaware.

McCulloch, S. 1984. Development of the Texas Natural Resources Inventory and Monitoring System (TNRIMS). Technical Papers of the 1984 ACSM-ASP Fall Convention; San Antonio, Texas. Falls Church, Virginia: ASP/ACSM. 751-761.

Mower, R. D., and Heinrich, M. L. 1977. Computer processed (Landsat) land cover map of North Dakota. Technical papers selected from the annual conference on remote sensing of earth resources; March 29-31, 1977. Tullahoma, Tennessee: University of Tennessee. 295-307.

Pala, S., and Boissonneau, A. 1982. Wetland classification maps for the Hudson Bay lowland. Proceedings of the James and Hudson Bay symposium; Guelph, Ontario, Canada. Le Naturaliste Canadien. 653-659.

Parada, N. D. J., and Valeriano, D. D. M. 1982. Application of remote sensing data to land use and land cover assessment in the Tubarao River coastal plain, Santa Catarina, Brazil. Presented at the international symposium on utilization of coastal ecosystems: planning, pollution and productivity; November 22-27, 1982; Rio Grande, Brazil.

Polcyn, F. C., Rebel, D. L., and Colwell, J. E. Analysis of hydrological features of portions of the Lake Ontario basin using Skylab and aircraft data. Ann Arbor, Michigan: Environmental Research Institute of Michigan.

Reimold, R. J., and Linthurst, R. A. 1975. Use of remote sensing for mapping wetlands. Transportation Engineering Journal, American Society of Civil Engineers. 189-198.

Sattinger, I. J., and Dillman, R. D. 1973. Digital land use mapping in Oakland County, Michigan. Proceedings of the symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 1047-1054.

Sellman, B. 1973. Land resources survey for the state of Michigan. Proceedings of the symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 1083-1090.

Shepherd, W. 1979. A study of Minnesota land and water resources using remote sensing: progress report January 1 - December 31, 1978. Washington, DC: National Aeronautics and Space Administration.

Sivertson, E. 1990. Remote sensing: a high tech tool for Virginia. Papers from the annual conference of the Urban & Regional Information Systems Association; Edmonton, Alberta. Washington, DC: URISA.

Tessar, P. A., Hood, D. R., and Todd, W. J. 1975. The South Dakota cooperative land use effort: a state level remote sensing demonstration project. Proceedings of the NASA earth resources survey symposium; June 9-12, 1975. Houston, Texas: National Aeronautics and Space Administration. 1499-1523.

Vande, C. J. R., Lathrop, R. G., and Lillesand, T. M. 1988. Significance of GIS and remote sensing technology in Great Lakes monitoring and resource management. The Great Lakes: living with North America's inland waters -- proceedings of a symposium. Bethesda, Maryland: American Water Resources Association. 155-161.

Wadsworth, J. R. Jr., Brook, G. A., and Carver, R. E. 1983. Surface expression of heavily mantled interstratal karst bordering Okefenokee Swamp, Georgia. Technical papers of the 1983 annual meeting of the American Society of Photogrammetry; Washington, DC. Falls Church, Virginia: ASPRS. 463-470.

Wagner, T. W., and Fernandez, J. C. 1977. Application of Landsat data to the integrated economic development of Mindor, Phillippines. Proceedings of the eleventh international symposium on remote sensing of environment; April 25-29, 1977. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1375-1380.

Welch, R., Lo, H. C., and Pannell, C. W. 1979. Mapping China's new agricultural lands. Photogrammetric Engineering and Remote Sensing. 45(9): 1211-1228.

Wobber, F. J. 1975. Remote sensing trends in state resources management. Photogrammetric Engineering and Remote Sensing. 41(6): 735-740.

Wood, B. L., and Beck, L. H. 1982. Geographic information system for Colusa County, California. Proceedings of the eighth international symposium on machine processing of remotely sensed data with special emphasis on crop inventory and monitoring; Purdue University. West Lafayette, Indiana: Purdue University. 374-401.



## General Information

Anderson, J. R. 1971. Land use classification schemes used in selected recent geographic applications of remote sensing. *Photogrammetric Engineering*. 37(4): 379-387.

Anderson, J. R., and Witmer, R. E. 1975. The National land use data program of the U.S. Geological Survey. Proceedings of the NASA earth resources survey symposium; June 9-12, 1975. Houston, Texas: National Aeronautics and Space Administration. 1609-1615.

Anderson, J. R., Hardy, E. E., Roach, J. T. et al. 1976. A land use and land cover classification system for use with remote sensor data.

Applications of remote sensing to water resources. 1977. Gambrills, Maryland: ECOsystems International, Inc.

Barker, G. R., Hoffer, R. M., Mroczynski, R. P. et al. 1981. Resource information needs in industry and the role of remote sensing. Seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University.

Bay, S. M., Chen, W. T., Freas, G. W., Jr. et al. 1977. National Conference of State Legislatures task force findings on feasible state uses of Landsat. Application of remote sensing to the Chesapeake Bay region proceedings; April 12, 1977; Berkeley Springs, West Virginia. Washington, DC: National Aeronautics and Space Administration.

Beccasio, A. D., Redfield, A. E., Jarman, J. W. et al. 1979. The role of remote sensing in practical geotechnical and environmental applications; a consultant's approach. US Army Corps of Engineers remote sensing symposium; Reston, Virginia. Fort Belvoir, Virginia: US Army Engineering Topographic Laboratories. 113-123.

Butera, M. K. 1983. Remote sensing of wetlands. Proceedings of IGARSS '82: the promise of remote sensing; June 1-4, 1982; Munich, West Germany. New York: IEEE. 383-392.

Carsey, F., and Dixon, T. 1982. FIREX mission requirements document for renewable resources. Washington, DC: National Aeronautics and Space Administration.

Carter, V. 1981. Remote sensing for wetland mapping and inventory. *Water International*. 6: 177-185.

Carter, V., Alsid, L., and Anderson, R. R. 1976. Man's impact upon wetlands. Washington, DC: US Geological Survey.

Carter, V. 1982. Applications of remote sensing to wetlands. Johannsen, C. J., Sanders, J. L. Remote sensing for resource management. Ankeny, Iowa: Soil Conservation Society of America. 284-300.

Carter, V., and Richardson, K. A. 1981. Landsat digital analysis: implications for wetland management. Proceedings of the seventh international symposium on machine processing of remotely sensed data with special emphasis on range, forest, and wetlands assessment; Purdue University. West Lafayette, Indiana: Purdue University. 220-229.

Clapp, J. L., Kiefer, R. W., McCarthy, M. M. et al. 1973. The use of ERTS-1 data for the inventory of critical land resources for regional land use planning. Proceedings of the symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 1007-1014.

Cooper, S., Buckelew, T. D., McKim, H. L. et al. 1977. Landsat follow-on investigation no. 22510: the use of the Landsat data collection system and imagery in reservoir management and operation. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration.

Cowardin, L. M., Carter, V., Golet, F. C. et al. 1979. Classification of wetlands and deepwater habitats of the United States. Washington, DC: US Department of the Interior, Fish and Wildlife Service.

Crapper, P. F. 1983. Review of current Australian work on the application of Landsat to land transformation processes. Study of land transformation processes from space and ground observations: proceedings of symposium 10 of the COSPAR 24th plenary meeting; Ottawa. New York: Pergamon Press. 161-165.

Deutsch, M. 1972. Operational and experimental remote sensing in hydrology. Proceedings of CENTO seminar on the application of remote sensors in the determination of natural resources; November 10-13, 1971; Ankara, Turkey. Washington, DC: US Geological Survey. 95-105.

Donoghue, D., and Shennan, I. 1988. The application of remote sensing to environmental archaeology. *Geoarchaeology*. 3: 275-285.

Dottavio, C. L., and Dottavio, F. D. 1984. Potential benefits of new satellite sensors to wetland mapping. *Photogrammetric Engineering and Remote Sensing*. 20(5): 599-606.

Driscoll, R. S. 1981. Remote sensing: its role in meeting information needs. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 2-6.

- Engman, E. T. 1982. Remote sensing application in watershed modeling. *Applied Modeling in Catchment Hydrology* (Proceedings of the International Symposium on Rainfall-Runoff Modeling); Mississippi State University, Mississippi. Littleton, Colorado: Water Resources Publications. 473-494.
- Erickson, J. D., and Thomson, F. J. 1974. Recent advancements in information extraction methodology and hardware for earth resources survey systems. Conference record of the IEEE International Conference on Communications; June 17-19, 1974; Minneapolis, Minnesota. New York: IEEE. Paper 32B.
- Ernst-Dottavio, C. L., Hoffer, R. M., and Mroczynski, R. P. 1981. Spectral characteristics of wetland habitats. *Photogrammetric Engineering and Remote Sensing*. 47(2): 223-227.
- Frayser, W. E., Monahan, T. J., Bowden, D. C. et al. 1983. Status and trends of wetlands and deepwater habitat in the conterminous United States, 1950s to 1970s. Fort Collins, Colorado: Department of Forest and Wood Sciences, Colorado State University.
- Godfrey, K. A. 1979. What future for remote sensing from space? *Civil engineering - ASCE*. 61-66.
- Haas, R. H., and Waltz, F. A. 1983. Evaluation of Thematic Mapper data for natural resource assessment. *Proceedings of the Pecora VIII symposium: satellite land remote sensing advancements for the eighties*. Sioux Falls, South Dakota: Augustana College. 122-133.
- Howard, A. D., Remson, I., Dickinson, W. R. et al. 1978. *Geology in environmental planning*. New York: McGraw-Hill Book Co.
- Jarman, J. W. 1973. The Earth Resources Program of the Corps of Engineers. Symposium on significant results obtained from Earth Resource Technology Satellite-1; May 1973. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 127-141.
- Kiefer, R. W. 1978. Multidisciplinary research on the application of remote sensing to water resources problems: progress report August 1977 - July 1978. Washington, DC: National Aeronautics and Space Administration.
- Lindgren, D. T. 1985. Land use planning and remote sensing. *Remote sensing of earth resources & environment series 2*. Martinus Nijhoff.
- McElfish, J. M., and Adler, K. J. 1990. Swampbuster implementation: missed opportunities for wetland protection. *Journal of Soil and Water Conservation*. 45(3): 383-385.
- Mercanti, E. P. 1974. Widening ERTS applications. *Astronautic & Aeronautics*. 28-41.

Montanari, J. A., and Townsend, J. E. 1977. Status of the National Wetlands Inventory. Transactions of the 42nd North American wildlife national resource conference; March 5-9, 1977; Atlanta, Georgia. 66-72.

Norton, D. J., and Slonecker, E. T. 1990. The ecological geography of EMAP. Geo Info Systems. 1(0): 33-43.

Nyc, R. 1980. In search of wetlands. Water Spectrum. Spring: 17-25.

Nyc, R., and Brooks, P. 1979. National Wetlands Inventory project: inventorying the Nation's wetlands with remote sensing. US Army Corps of Engineers: proceedings of the remote sensing symposium; October 29-31, 1979; Reston, Virginia. 333-343.

Practical applications of space systems, supporting paper 7: environmental quality. 1975. Washington, DC: National Academy of Sciences.

Roller, N. E. G. 1977. Remote sensing of wetlands. Ann Arbor, Michigan: Environmental Research Institute of Michigan.

Salomonson, V. V. 1973. Water resources. Proceedings of the symposium on significant results obtained from Earth Resources Technology Satellite-1; March 5-9, 1973. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 57-69.

Salomonson, V. V., and Rango, A. 1974. ERTS-1 applications in hydrology and water resources. Journal of the American Water Works Association. 168-172.

Shaw, S. P., and Fredine, C. G. 1956. Wetlands of the United States: their extent and their value to waterfowl and other wildlife. Washington, DC: US Department of the Interior, Fish and Wildlife Service.

Striffler, W. D., and Fitz, D. C. 1980. Applications of remote sensing in hydrology. Colorado State University: Colorado Water Resources Research Institute.

Tiner, R. W. 1984. Wetlands of the United States: current status and recent trends. Washington, DC: National Wetlands Inventory, Fish and Wildlife Service, US Department of the Interior.

Wilcox, D. A. 1987. A model for assessing interdisciplinary approaches to wetland research. Wetlands: The Journal of the Society of Wetland Scientists. 7: 39-49.

Zinn, J. A., and Copeland C. 1982. Wetland management. Washington, DC: Congressional Research Service, The Library of Congress.

## Unknown Wetland Type

Amis, M. L., Lennington, R. K., Martin, M. V. et al. 1981. Evaluation of USDA large area crop estimation techniques. Proceedings of the seventh international symposium on machine processing of remotely sensed data, with special emphasis on range, forest, and wetlands assessment; Purdue University. West Lafayette, Indiana: Purdue University. 26-35.

Barnes, C. M., and Cibula, W. C. 1979. Some implications of remote sensing technology in insect control programs including mosquitoes. Mosquito News. 271-282.

Bartlett, D. S., Whiting, G. J., and Hartman, J. M. 1990. Use of vegetation indices to estimate intercepted solar radiation and net carbon dioxide exchange of a grass canopy. Remote Sensing of Environment. 30: 115-128.

Behie, G., and Comillon, P. 1981. Remote sensing, a tool for managing the marine environment: eight case studies. Rhode Island: University of Rhode Island.

Blanchard, A. J., and Benton, A. R. Jr. 1983. Determination of mobility and trafficability indicators with multifrequency imaging radar. Proceedings of the 1983 IGARSS Symposium: Remote Sensing -- Extending Man's Horizon; San Francisco, California. New York: IEEE. 1-6.

Brodie, G. A. 1989. Selection and evaluation of sites for constructed wastewater treatment wetlands. Constructed wetlands for wastewater treatment: municipal, industrial and agricultural. Chelsea, Michigan: Lewis Publishers; 307-317.

Butera, M. K., Browder, J. A., and Frick, A. L. 1984. A preliminary report on the assessment of wetland productive capacity from a remote-sensing-based model -- a NASA/NMFS joint research project. IEEE Transactions on Geoscience and Remote Sensing. GE-22(6): 502-511.

Butera, M. K., and Frick, A. 1984. An analysis of the effect of biological and physical parameters of a wetlands grass biome on the spectral modelling of phytomass and primary productivity. Proceedings of the IGARSS '84 Symposium; August 27-30, 1974; Strasbourg. 209-216.

Chen, E., and Allen, L. H., Jr. 1987. Comparison of HCMM and GOES satellite temperatures and evaluation of surface statistics. Remote Sensing of Environment. 21: 341-353.

Colwell, J. E., Gilmer, D. S., Work, E. A., Jr. et al. 1978. Use of Landsat data to assess waterfowl habitat quality. Ann Arbor, Michigan: Environmental Research Institute of Michigan.

Curtis, L. F. 1986. Remote sensing for environmental management of national parks with special reference to Exmoor. *Journal of the British Interplanetary Society*. 552-558.

Dawbin, K. W., Beach, D. W., Hoffer, R. M. et al. 1981. Crop monitoring in Australia using digital analysis of Landsat data. *Proceedings of the seventh international symposium on machine processing of remotely sensed data*; Purdue University. West Lafayette, Indiana: Purdue University. 76-79.

Delleur, J. W., and Lee, M. T. 1973. A rainfall-runoff model based on the watershed stream network. *Proceedings of the symposium on the design of water resources projects with inadequate data*; June 1973; Madrid, Spain. West Lafayette, Indiana: Purdue University.

Dudding, M. L. 1981. Monitoring land conversions from forest/wetland to agriculture. *Second eastern regional remote sensing applications conference*; Danvers, Massachusetts. 139-146.

Ehlers, M. 1982. Increase in correlation accuracy of remote sensing imagery by digital filtering. *Photogrammetric Engineering and Remote Sensing*. 415-420.

Ernst, C. L., and Hoffer, R. M. 1979. Using Landsat MSS data with soils information to identify wetland habitats. M. Deutsch, D. R. Wiesnet, A. Rango, editors. *Proceedings of the fifth annual William T. Pecora memorial symposium on remote sensing: satellite hydrology*; June 10-15, 1979; Sioux Falls, South Dakota. Minneapolis, Minnesota: American Water Resources Association. 474-478.

Fellows, J. D., and Hoffer. 1981. A georeferenced information system for real time hydrologic modeling. *Proceedings of the seventh international symposium on machine processing of remotely sensed data*; Purdue University. West Lafayette, Indiana: Purdue University.

Ford, J. P. 1981. Effects of resolution versus speckle in spaceborne radar image interpretation; a geologic-user based analysis. *Proceedings of the seventh international symposium on machine processing of remotely sensed data*; Purdue University. West Lafayette, Indiana: Purdue University. 132-138.

Frank, T. D. 1981. Comprehensive geo-data base control with an electronic coordinate digitizer. *Proceedings of the seventh international symposium on machine processing of remotely sensed data*; Purdue University. West Lafayette, Indiana: Purdue University. 497-504.

Franklin, S. E., and Peddle, D. R. 1990. Classification of SPOT HRV imagery and texture features. *International Journal of Remote Sensing*. 11(3):551-556.

Fukue, K., Shimoda, H., and Sakata, T. 1981. Complete lineament extraction with the aid of shadow-free Landsat image. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 94-102.

Gagnon, H. 1982. The false argillaceous outflow of Toma Lake. *Geoscope*. 13: 28-39.

Gallo, K. P., and Daughtry, C. S. T. 1981. Spectrally derived inputs to crop yield models. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 52-65.

Gammon, P. T., Carter, V., Shima, L. J. et al. 1978. Wetland vegetation studies. US Geological Survey professional paper.

Gammon, P. T., and Carter, V. 1979. Vegetation mapping with seasonal color infrared photographs. *Photogrammetric Engineering and Remote Sensing*. 45(1): 87-97.

Gervin, J. C., Mulligan, P. J., Lu, Y. C. et al. 1983. Hydrological planning studies using Landsat-4 Thematic Mapper. Proceedings of the seventeenth international symposium on remote sensing of environment. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1403-1412.

Gervin, J., and Shih, S. F. 1979. Improvements in lake volume predictions using Landsat data. M. Deutsch, D. R. Wiesnet, and A. Rango, editors. Proceedings of the fifth annual William T. Pecora memorial symposium on remote sensing; June 10-15, 1979; Sioux Falls, South Dakota. Minneapolis, Minnesota: American Water Resources Association. 479-484.

Gervin, J. C., and Shih, S. F. 1979. A technique for improved assessment of flow resistance characteristics of natural wetlands using Landsat data. M. Deutsch, D. R. Wiesnet, and A. Rango, editors. Proceedings of the fifth annual William T. Pecora memorial symposium on remote sensing; June 10-15, 1979; Sioux Falls, South Dakota. Minneapolis, Minnesota: American Water Resources Association. 507-511.

Gervin, J. C., and Shih, S. F. 1979. Wetland flow resistance determination using Landsat data. Joint Proceedings of the ASP-ACSM Fall Technical Meeting; September 17-20, 1979; Sioux Falls, South Dakota. Falls Church, Virginia: American Congress on Surveying and Mapping. 105-116.

Gordon, H. H., Penney, M. E., and Byrne, R. J. 1974. Remote sensing applications in marine science programs at VIMS. Gloucester Point, Virginia: Virginia Institute of Marine Science.

Goswami, R. K. 1982. A study of wetlands using geochemical, remote sensing, and multivariate analytical techniques. Doctoral dissertation. Knoxville, Tennessee: University of Tennessee.

Gross, M. F., Hardisky, M. A., and Klemas, V. 1988. Effects of solar angle on reflectance from wetland vegetation. *Remote Sensing of Environment*. 26:195-212.

Hansen, J. H. 1983. Automated classification of wetlands. Technical papers of the 49th annual meeting of the American Society of Photogrammetry; March 13-18, 1983. Washington, DC: American Society of Photogrammetry. 177-181.

Hardin, D. I., and Imhoff, M. L. 1981. Monitoring wetlands change using Landsat data ( Delaware, USA). Proceedings of the second eastern regional remote sensing applications conference; March 1981; Danvers, Massachusetts. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics Space Administration. 259-267.

Harding, R. A. 1977. DNR: a source of environmental data. R. D. Andrews, III, R. L. Carr, F. Gibson, et al., editors. Proceedings of the symposium on terrestrial and aquatic ecological studies of the Northwest; March 26-27, 1976; Eastern Washington State University. Cheney, Washington: EWSC Press. 67-72.

Hegy, F., and Quenet, R. V. 1981. Applications of remote sensing techniques to update the forest inventory data base in British Columbia. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 7.

Hixson, M. M. 1981. Techniques for evaluation of area estimates. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 84-90.

Howman, A. 1988. The extrapolation of spectral signatures illustrates Landsats' potential to detect wetlands. Proceedings of IGARSS '88 symposium; September 13-16, 1988; Edinburgh, Scotland. 537-539.

Jensen, J. R. 1987. The use of pattern recognition in biophysical remote sensing. Proceedings of the sixtieth annual meeting of the South Carolina Academy of Science; Columbia, South Carolina. 76.

Linden, D. S., and Szajgin, J. 1981. A double cluster sampling approach to Landsat classification accuracy assessment. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 83.



Lyon, J. G., Gauthier, R., Greene, R. et al. 1985. Assessment of historical wetland loss and wetland regeneration from aerial photos, Landsat MSS and TM data. US Army Corps of Engineers fifth remote sensing symposium; October 28-30, 1985. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 108-115.

Marmelstein, A. D. 1978. Remote sensing applications to wildlife management in the U.S. Fish and wildlife service. Proceedings of the twelfth international symposium on remote sensing of environment. Ann Arbor, Michigan: Environmental Research Institute of Michigan.

Mead, R. A. 1981. Case studies on classification accuracy assessment. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University.

Mintzer, O. W., and Spragg, D. 1978. Mini-format remote sensing for civil engineering. American Society of Civil Engineers, Transportation Engineering Journal. 847-858.

Mollard, J. D. 1982. Using remote sensing in water resource studies in western Canada: selected case histories. Johannsen, C. J., Sanders, J. L. Remote sensing for resource management. Ankeny, Iowa: Soil Conservation Society of America. 264-283.

Moore, G. K., Baltzer, R. A., and Carter, V. 1978. Surface-water applications of Landsat data. US Geological Survey Professional Paper.

Mulligan, P. J., Lu, Y. C., and Gervin, J. C. 1983. Wetlands investigations using Thematic Mapper data. US Army Corps of Engineers remote sensing symposium; November 7-9, 1983; Reston, Virginia. 399-404.

Norton, D. J., and Prince, J. 1985. Use of remote sensing for wetlands assessment in hazardous waste sites. Proceedings of the nineteenth international symposium on remote sensing of environment; October 21-25, 1985. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 781-790.

O'Toole, M. M., and Finkbeiner, M. A. 1986. Recent applications of aerial photography in the field of hazardous waste site management. Technical papers of the 1986 ASPRS-ACSM fall convention; Anchorage, Alaska. Falls Church, Virginia: ASPRS. 356-366.

Odenyo, V. O., and Pettry, D. E. 1977. Land-Use mapping by machine processing of Landsat-1 data. Photogrammetric Engineering and Remote Sensing. 43(4): 515-523.

Olson, C. E., Jr. 1981. A case for standardized test sites. Seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 20-23.

Ormsby, J. P., Gervin, J. C., Nickeson, J. E. et al. 1985. Wetland physical and biotic studies using multispectral data. US Army Corps of Engineers fifth remote sensing symposium; October 28-30, 1985. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 429-438.

Pala, S. 1982. Practical automated mapping system. Satellite Remote Sensing for Developing Countries: Proceedings of an EARSeL-ESA Symposium (European Association of Remote Sensing Laboratories-European Space Agency); Igls, Austria. Paris, France: European Space Agency. 217-218.

Pathan, S. K., and Parihar, J. S. 1983. Comparison of the potential and Bhaskara-II TV and Landsat MSS data for mapping of different land features. Proceedings of the seventeenth international symposium on remote sensing of environment. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1147-1155.

Podolsky, R., and Conkling, P. 1991. Satellite search aids wetlands visualization. GIS World. 4(9): 80-85.

Pollara, V. J., Vanderbilt, V. C., and Daughtry, C. S. T. 1981. A technique to determine which crop development stages can be estimated from spectral data. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 66-75.

Quinn, A. O. 1972. Photogrammetry aids solution of environment problems. Journal of the Surveying and Mapping Division, American Society of Civil Engineers. 87-92.

Rao, K. R., Krishnan, R., Chakraborty, A. K. et al. 1981. Water quality models with different functions of Exotech radiometer bands. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 262-268.

Reimold, R. J., and Linthurst, R. A. 1975. Use of remote sensing for mapping wetlands. Transportation Engineering Journal, American Society of Civil Engineers. 189-198.

Richardson, K. A. 1984. Wetlands classification using Landsat Thematic Mapper data unsupervised classification approach. Proceedings of the tenth international symposium on machine processing of remotely sensed data with special emphasis on Thematic Mapper data and geographic information systems; June 12-14, 1984; Purdue University. West Lafayette, Indiana: Purdue University. 154-158.

Rochon, G., and Roksandic, M. 1981. Geologic application of Landsat imagery enhanced by topographic data. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 124-131.

Roller, N. E. G. 1981. Strategies for information - directed wetlands. Proceedings of the seventh international symposium on machine processing of remotely sensed data with special emphasis on range, forest, and wetlands assessment; Purdue University. West Lafayette, Indiana: Purdue University. 230-239.

Sadowski, F. G. 1981. Alternative approaches for utilizing Landsat data to address forest and range applications. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 19.

Satellites helping to solve down-to-earth civil engineering problems. 1975. Civil Engineering (ASCE). 49-53.

Shacham, S., Chesters, G., and McLellan, H. 1984. Documentation of the data base: Wisconsin power plant impact study. Madison, Wisconsin: University of Wisconsin.

Sheng, Y. P., Hamilton, P., and Macdonald, K. B. 1980. Modeling sediment transport in a shallow lake. Proceedings of a workshop on wetland and estuarine processes and water quality modeling; June 18-20, 1979; New Orleans, Louisiana. New York: Plenum Publishing Corporation.

Slack, R. B., and Welch, R. 1980. Soil conservation service runoff curve number estimates from Landsat data. Water Resources Bulletin. 887-893.

Struve, H., and Kirk, W. L. 1980. Remote-sensing procedures for detecting and monitoring various activities regulated by the Mobile District: final report October 1976 - September 1978. Vicksburg, Mississippi: US Army Engineers Waterways Experiment Station.

Takahashi, H. 1981. A lineament enhancement technique for active fault analysis. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 103-112.

Wedler, E., and Kessler, R. 1981. Interpretation of vegetative cover in wetlands using four-channel SAR imagery. Technical papers of the 1981 ASP-ACSM convention; February 22-27, 1981; Washington, DC. 111-125.

Welch, R. A., and Hsu, A. Y. 1981. Statistical tests and interactive displays of Landsat classification accuracies. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 91-92.

Wicker, K. M., and Meyer-Arendt, K. J. 1981. Utilization of remote sensing in wetland management. B. F. Richason, Jr., editor. Proceedings of the Pecora VII symposium -- remote sensing: an input to geographic information systems in the 1980's; October 18-21, 1981; Sioux Falls, South Dakota. 217-229.

Williamson, A. N. 1981. Landsat Data for Regulatory Permit Monitoring. Proceedings of the fifth annual William T. Pecora memorial symposium on remote sensing; June 10-15, 1979; Sioux Falls, South Dakota. 270-277.

Wood, B., and Beck, L. 1986. Remote sensing of wetland plant stress. Proceedings of IGARSS '86 symposium; September 8-11, 1986; Zurich, Switzerland. 1383-1386.

Woodzick, T. L., and Maxwell, E. L. 1977. Multidate mapping of mosquito habitat. Proceedings of the eleventh international symposium on remote sensing of environment; April 25-29, 1977. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 979-989.

Wu, S. T. 1980. An improvement in land cover classification achieved by merging microwave data with Landsat Multispectral Scanner data. Technical papers of the 1980 ACSM-ASP convention; March 9-14, 1980; St. Louis, Missouri. 293-309.

Xu, S. R., Li, C.-C., and Flint, N. K. 1981. Extraction of geological lineaments from Landsat imagery by using local variance and gradient trend. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 113-123.

# **Appendix B**

## **Citations Organized by Sensor Type**

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### **Black-and-White Photography**

Adams, D. G., Gentle, G. C., and MacEwan, A. 1980. Documenting a 10-year change in land use and waterfowl habitat from digitized aerial photo-maps. Proceedings of the fifth Canadian symposium on remote sensing; August 1978; Victoria, British Columbia. Ottawa: Canadian Aeronautics and Space Institute. 415-426.

Baumann, R. H., and Adams, R. D. 1981. Remote sensing as a tool in determining probable impacts of flood control and navigation structures on wetland restoration in the lower Atchafalaya system. Sixth biennial international estuarine research conference; November 1-5, 1981; Gleneden Beach, Oregon. 267.

Cowardin, L. M., and Myers, V. I. 1974. Remote sensing for identification and classification of wetland vegetation. *Journal of Wildlife Management*. 308-314.

Day, R. H., Holz, R. K., and Day, J. W., Jr. 1990. An inventory of wetland impoundments in the coastal zone of Louisiana, USA: historical trends. *Environmental Management*. 14(2): 229-240.

Handley, L. R., Quammen, M. L., and Johnston, J. B. 1987. Wetlands analysis for lower San Francisco Bay. Coastal Zone '87: proceedings of the fifth symposium on coastal and ocean management; Seattle, WA. New York: ASCE. 1154.

Hofstetter, R. H., and Sonenshein, R. S. 1990. Vegetative changes in a wetlands in the vicinity of a well field, Dade County, Florida. Tallahassee, Florida: South Florida Water Management District.

Howland, W. G. 1980. Multispectral aerial photography for wetland vegetation mapping. *Photogrammetric Engineering and Remote Sensing*. 46(1): 87-99.

Ibrahim, S., and Hashim, I. 1990. Classification of mangrove forest by using 1:40,000-scale aerial photographs. *Forest Ecology and Management*. 33/34: 583-592.

Johnston, J. B., and Longley, W. L. 1980. Remote sensing and its role in coastal resource studies. *Proceedings of the fourteenth international symposium on remote sensing of environment*; April 23-30, 1980; San Jose, Costa Rica. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1789-1797.

Keller, M. 1983. The application of remote sensing to wetland delineation for the planning function and regulatory functions in the Memphis District. US Army Corps of Engineers remote sensing symposium; November 7-9, 1983; Reston, Virginia. 437-438.

Lewis, A. J., Kim, S. T., Wilson, R. T. et al. 1975. Applied remote sensing of the lower Atchafalaya basin floodway. *Proceedings of the tenth international symposium on remote sensing of environment*; October 6-10, 1975; Ann Arbor, Michigan. Ann Arbor, Michigan: Environmental Research Institute of Michigan; 1975: 1319-1328.

Linthurst, R. A., and Reimold, R. J. 1973. Existing aerial photographic resources of coastal Georgia and a brief listing of interpretative aids: technical report. Savannah, Georgia: Georgia Marine Science Center.

McEwen, R. B., Kosco, W. J., and Carter, V. 1976. Coastal wetland mapping. *Photogrammetric Engineering and Remote Sensing*. 42(2): 221-232.

Meyer-Arendt, K. J., and Wicker, K. M. 1981. Classification and mapping habitats within the Mississippi River deltaic plain region. B. F. Richason, editor. *Proceedings of the Pecora VII symposium*; October 18-21, 1981; Sioux Falls, South Dakota. 163-174.

Mollard, J. D. 1982. Using remote sensing in water resource studies in western Canada: selected case histories. Johannsen, C. J., Sanders, J. L. *Remote sensing for resource management*. Ankeny, Iowa: Soil Conservation Society of America. 264-283.

Norton, D. J., Organ, J., and Litwin, T. 1985. Covertypes classification and mapping on Long Island's national wildlife refuges. *Technical papers of the 1985 ASPRS-ACSM annual convention*; Washington, DC Falls Church, Virginia: ASPRS. 585-594.

Nyc, R., and Brooks, P. 1979. National Wetlands Inventory project: inventorying the Nation's wetlands with remote sensing. US Army Corps of Engineers: *proceedings of the remote sensing symposium*; October 29-31, 1979; Reston, Virginia. 333-343.

- O'Toole, M. M., and Finkbeiner, M. A. 1986. Recent applications of aerial photography in the field of hazardous waste site management. Technical papers of the 1986 ASPRS-ACSM fall convention; Anchorage, Alaska. Falls Church, Virginia: ASPRS. 356-366.
- Patterson, S. G. 1986. Mangrove community boundary interpretation and detection of areal changes on Marco Island, Florida: application of digital image processing and remote sensing techniques. Washington, DC: US Department of the Interior.
- Peters, D. D. 1989. Status and trends of wetlands in the California Central Valley. *Wetlands: Concerns and Successes*. September: 33-44.
- Pratt, T. R., Clewell, A. F., and Cleckley, W. O. 1989. Principal vegetation communities of the Choctawhatchee River flood plain, Northwest Florida. *Wetlands: Concerns and Successes*. September: 91-99.
- Rollet, B., and Damen, M. C. J. 1986. Photo-interpretation of wetland vegetation in the Lesser Antilles (Guadeloupe). *Proceedings of the seventh ISPRS Commission symposium; Enschede*. Balkema. 499-504.
- Sasser, C. E., Dozier, M. D., Gosselink, J. G. et al. 1986. Spatial and temporal changes in Louisiana's Barataria Basin marshes, 1945-1980. *Environmental Management*. 10(5): 671-680.
- Stewart, W. R., Carter, V., and Brooks, P. D. 1980. Inland (non-tidal) wetland mapping. *Photogrammetric Engineering and Remote Sensing*. 46(5): 617-628.
- Terchunian, A., Klemas, V., Segovio, A. et al. 1986. Mangrove mapping in Ecuador: the impact of shrimp pond construction. *Environmental Management*. 10(3): 345-350.
- Weaver, M. G., Cross, G. H., and Mead, R. A. 1980. Repetitive aerial photography for assessing marsh vegetation change. Technical papers of the American Society of Photogrammetry ACSM-ASP Convention; March 9-14, 1980; St. Louis, Missouri. Falls Church, Virginia: American Society of Photogrammetry. 395-409.
- Wilkie, D. S., and Larson, J. S. 1980. Municipal wells, land development and freshwater wetlands in Massachusetts. Amherst, Massachusetts: University of Massachusetts, Water Resources Research Center.
- Wood, B. L. 1983. Wetland mapping in Colusa county, California. *Proceedings of the Society of American Foresters international renewable resource inventories for monitoring conference; August 15-19, 1983; Corvallis, Oregon*. 345-349.

## True-Color Photography

Anderson, R. R., and Wobber, F. J. 1973. Wetlands mapping in New Jersey. *Photogrammetric Engineering*. 39(4): 353-358.

Andrews, D. S., Webb, D. H., and Bates, A. L. 1983. Use of aerial remote sensing in quantifying submersed aquatic macrophytes. Symposium on ecological assessment of macrophyton: collection, use, and meaning of data; January 15-16, 1983; Fort Lauderdale, Florida. Chattanooga, Tennessee: Tennessee Valley Authority. 92-99.

Brown, W. W. 1978. Wetland mapping in New Jersey and New York. *Photogrammetric Engineering and Remote Sensing*. 44(3): 303-314.

Chime, L. R., Gnauck, G. E., and Maragos, J. 1978. Hawaii wetlands mapping. *Coastal Zone '78*. 1223-1241.

Egan, W., and Hair, M. E. 1971. Automated delineation of wetlands in photographic remote sensing. Proceedings of the seventh international symposium on remote sensing of environment; May 17-21, 1971; Ann Arbor, Michigan. Ann Arbor, Michigan: The University of Michigan. 2231-2251.

Gallagher, J. L., Reimold R. J., and Thompson, D. E. 1972. A comparison of four remote sensing media for assessing salt marsh primary productivity. Proceedings of the eighth international symposium on remote sensing of environment; October 2-6, 1972. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1287-1295.

Hardisky, M. A., and Klemas, V. 1983. Tidal wetlands natural and human-made changes from 1973 to 1979 in Delaware: mapping techniques and results. *Environmental Management*. 7(4): 339-344.

Howland, W. G. 1977. Vegetation mapping from color aerial photography of Lake Champlain wetlands. F. Shahrokhi, editor. Remote sensing of earth resources; March 29-31, 1977. Tullahoma, Tennessee: The University of Tennessee. 9-23.

Howland, W. G. 1980. Multispectral aerial photography for wetland vegetation mapping. *Photogrammetric Engineering and Remote Sensing*. 46(1): 87-99.

Jenkins, D. W., and Williamson, F. S. L. 1972. Collection and analysis of remotely sensed data from the Rhode River estuary watershed. Washington, DC: Smithsonian Institution.



Jensen, J. R., Hodgson, M. E., Christensen, E. J. et al. 1984. Multispectral remote sensing of inland wetlands in South Carolina: selecting the appropriate sensor. Tenth international symposium on machine processing of remotely sensed data with special emphasis on Thematic Mapper data and geographic information systems; June 12-14, 1984; Purdue University. West Lafayette, Indiana: Purdue University. 144-152.

Jensen, J. R. 1986. *Wetlands proximity mapping of 86 waste sites on the Savannah River Plant*. Aiken, South Carolina: Savannah River Laboratory.

Kirby, R. E. 1976. Mapping wetlands on beaver flowages with 35mm photography. *Canadian Field-Naturalist*. 423-431.

Lewis, A. J., Kim, S. T., Wilson, R. T. et al. 1975. Applied remote sensing of the lower Atchafalaya basin floodway. Proceedings of the tenth international symposium on remote sensing of environment; October 6-10, 1975. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1319-1328.

Liang, T., McNair, A. J., and Philipson, W. R. 1978. Cornell University Remote Sensing Program semiannual status report: December 1, 1977 - May 31, 1978. Washington, DC: National Aeronautics and Space Administration.

Linthurst, R. A., and Reimold, R. J. 1973. Existing aerial photographic resources of coastal Georgia and a brief listing of interpretative aids: technical report. Savannah, Georgia: Georgia Marine Science Center.

Marlar, T. L., Palazzo, A. J., and Randall, A. D. 1981. Report on selected wetland mapping programs and their application to the regulatory efforts of the New England Division, Corps of Engineers. US Army Corps of Engineers: proceedings of the remote sensing symposium; November 30 - December 2, 1981; Nashville, Tennessee.

Navarro, A. A., and Wellar, B. S. 1983. Underwater mapping techniques using remote sensing for salvaging sunken vessels. Proceedings of the sixth international symposium on automated cartography; October, 1983. Ottawa: Canadian National Committee for Auto-Carto Six. 549-558.

Nyc, R., and Brooks, P. 1979. National Wetlands Inventory project: inventorying the Nation's wetlands with remote sensing. US Army Corps of Engineers: proceedings of the remote sensing symposium; October 29-31, 1979; Reston, Virginia. 333-343.

O'Toole, M. M., and Finkbeiner, M. A. 1986. Recent applications of aerial photography in the field of hazardous waste site management. Technical papers of the 1986 ASPRS-ACSM fall convention; Anchorage, Alaska. Falls Church, Virginia: ASPRS. 356-366.

Patterson, S. G. 1986. Mangrove community boundary interpretation and detection of areal changes on Marco Island, Florida: application of digital image processing and remote sensing techniques. Washington, DC: US Department of the Interior.

Polis, D. F., Salter, M., and Lind, H. 1974. Hydrographic verification of wetland delineation by remote sensing. *Photogrammetric Engineering*. 40(2): 75-78.

Watson, E. K., and Van Ryswyk, A. L. 1981. Remote sensing applications for British Columbia wetlands using 35mm aerial photography. *Proceedings of the seventh Canadian Symposium on remote sensing*; Winnipeg, Manitoba. Ottawa: Canadian Aeronautics & Space Institute. 211-221.

Weaver, M. G., Cross, G. H., and Mead, R. A. 1980. Repetitive aerial photography for assessing marsh vegetation change. *Technical papers of the American Society of Photogrammetry ACSM-ASP Convention*; March 9-14, 1980; St. Louis, Missouri. Falls Church, Virginia: American Society of Photogrammetry. 395-409.

Wilkie, D. S., and Larson, J. S. 1980. Municipal wells, land development and freshwater wetlands in Massachusetts. Amherst, Massachusetts: University of Massachusetts, Water Resources Research Center.

Wood, B. L. 1983. Wetland mapping in Colusa county, California. *Proceedings of the Society of American Foresters international renewable resource inventories for monitoring conference*; August 15-19, 1983; Corvallis, Oregon. 345-349.

Wynn, S. L., and Kiefer, R. W. 1977. Monitoring vegetation changes in a large impacted wetland using quantitative field data and quantitative remote sensing data. *Conference proceedings of the fourth joint conference on sensing of environmental pollutants*; November 6-11, 1977; New Orleans, Louisiana. 178-180.

## **False-Color Infrared Photography**

Adams, D. G., Gentle, G. C., and MacEwan, A. 1980. Documenting a 10-year change in land use and waterfowl habitat from digitized aerial photo-maps. Proceedings of the fifth Canadian symposium on remote sensing; August 1978; Victoria, British Columbia. Ottawa: Canadian Aeronautics and Space Institute. 415-426.

Anderson, J. R., and Witmer, R. E. 1975. The National land use data program of the U.S. Geological Survey. Proceedings of the NASA earth resources survey symposium; June 9-12, 1975. Houston, Texas: National Aeronautics and Space Administration. 1609-1615.

Anderson, P. H. 1977. Delineation of deciduous wetland forests in north-eastern Connecticut. Storrs, Connecticut: University of Connecticut.

Anderson, P. H., Lefor, M. W., and Kennard, W. C. 1980. Forested wetlands in eastern Connecticut: their transition zones and delineation. Water Resources Bulletin. 248-255.

Anderson, R. R., and Wobber, F. J. 1973. Wetlands mapping in New Jersey. Photogrammetric Engineering. 39(4): 353-358.

Application of remote sensing technology to land evaluation, planning utilization of land resources, and assessment of wildlife areas in eastern South Dakota: semiannual progress report, 1 July - 31 December 1975. Brookings, South Dakota: South Dakota State University, Remote Sensing Institute.

Bates, A. L. 1989. Low level remote sensing of aquatic weeds. Proceedings of workshop on management of aquatic weeds and mosquitoes in impoundments; March 14-15, 1989; University of North Carolina at Charlotte. Raleigh, North Carolina: Water Resources Research Institute of the University of North Carolina. 133-136.

Benton, A. R. Jr., Shell, W. W., and Clark, C. A. 1979. Monitoring man's impact in the coastal zone. Joint Proceedings of the ASP/ACSM Fall Technical Meeting; September 17-20, 1979; Sioux Falls, South Dakota. Falls Church, Virginia: American Congress on Surveying and Mapping. 237-250.

Best, R. G., Moore, D. G., and Brewster, W. G. 1976. Color-infrared aircraft photography to identify and classify wetlands in the Lake Dakota Plain of eastern South Dakota. Brookings, South Dakota: South Dakota State University.

Best, R. G., and Moore, D. G. 1977. Inventory of wetland habitat using remote sensing for the proposed Oahe irrigation unit in eastern South Dakota. Brookings, South Dakota: South Dakota State University.

Bogucki, D. J., and Gruending, G. K. 1978. Remote sensing to identify, assess and predict ecological impact on Lake Champlain wetlands. Plattsburgh, New York: State University of New York.

Boylan, M. 1978. Use of remote sensing for land use policy formulation: semiannual progress report: June - November, 1977. East Lansing, Michigan: Michigan State University.

Boylan, M. 1980. Use of remote sensing for land use policy formulation: annual progress report: June, 1978 - May 1979. East Lansing, Michigan: Michigan State University.

Brown, P. C., Scherz, J. P., and Windingstad, R. M. 1983. Remote sensing and avian cholera in Nebraska wetlands. Technical papers of the 1983 ACSM-ASP fall convention; Salt Lake City, Utah. Falls Church, Virginia: American Congress on Surveying & Mapping. 483-492.

Brown, W. W. 1978. Wetland mapping in New Jersey and New York. Photogrammetric Engineering and Remote Sensing. 44(3): 303-314.

Carter, V. (undated). Applications of remotely sensed data to wetland studies. Rycroft, J. J., Strickland, A. C., editors. COSPAR: Space Research. Washington, DC: US Geological Survey. 19-23.

Carter, V. P., and Anderson, R. R. 1972. Interpretation of wetlands imagery based on spectral reflectance characteristics of selected plant species. Proceedings of the 38th annual meeting of American Society of Photogrammetry; March 12-17, 1972; Washington, DC. Falls Church, Virginia: American Society of Photogrammetry. 580-595.

Carter, V., Garrett, M. K., Shima, L. et al. 1977. The Great Dismal Swamp: management of a hydrologic resource with the aid of remote sensing. Water Resources Bulletin. 13(1):1-12.

Carter, V., and Stewart, W. R. 1975. Seasonal color-infrared photographs for mapping inland wetlands on US Geological Survey 7.5-minute quadrangles. Proceedings of the fifth color aerial photography workshop; August 19-21, 1975; Sioux Falls, South Dakota. Falls Church, Virginia: American Society of Photogrammetry. 143-161.

Carter, V., Voss, A., Malone, D. et al. 1976. Wetland classification and mapping in western Tennessee. Proceedings of the 2nd annual William T. Pecora memorial symposium; October 25-29, 1976; Sioux Falls, South Dakota. Falls Church, Virginia: American Society of Photogrammetry. 213-234.

Carter, V., Malone, D. L., and Burbank, J. H. 1979. Wetland classification and mapping in western Tennessee. Photogrammetric Engineering and Remote Sensing. 45(3): 273-284.

Carter, V., and Smith, D. G. 1973. Utilization of remotely-sensed data in the management of inland wetlands. Anson, A. Management and utilization of remote sensing data: proceedings of a symposium on remote sensing; October 29 - November 1, 1973; Sioux Falls, South Dakota. Falls Church, Virginia: American Society of Photogrammetry. 144-158.

Chime, L. R., Gnauck, G. E., and Maragos, J. 1978. Hawaii wetlands mapping. Coastal Zone '78. 1223-1241.

Civco, D. L., Kennard, W. C., and Lefor, M. W. 1978. A technique for evaluating inland wetland photointerpretation: the cell analytical method (CAM). Photogrammetric Engineering and Remote Sensing. 44(8): 1045-1052.

Clapp, J. L., Kiefer, R. W., McCarthy, M. M. et al. 1973. The use of ERTS-1 data for the inventory of critical land resources for regional land use planning. Proceedings of the symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 1007-1014.

Cotter, P. J., Johnston, J. B., Quammen, M. L. et al. 1985. Development of a computerized wetlands mapping data base for use in Section 404 jurisdictional determinations in San Francisco Bay. Coastal Zone '85: proceedings of the fourth symposium on coastal and ocean management; Baltimore, Maryland. New York: ASCE. 1360-1368.

Coulbourn, W. C. 1972. Some applications of photography, thermal imagery and X band side looking radar to the coastal zone. Tools for coastal zone management, proceedings of the conference; February 14-15, 1972; Washington, DC. 59-65.

Cummins, K. W., and Mahan, D. C. 1976. The relationship between watershed use and stream water quality: report for December 1, 1974 - December 31, 1975. East Lansing, Michigan: Michigan State University, Institute of Water Research.

Curtis, L. F. 1986. Remote sensing for environmental management of national parks with special reference to Exmoor. Journal of the British Interplanetary Society. 552-558.

Day, R. H., Holz, R. K., and Day, J. W., Jr. 1990. An inventory of wetland impoundments in the coastal zone of Louisiana, USA: historical trends. Environmental Management. 14(2): 229-240.

de Jesus Parada, N., and de Morrison Valeriano, D. 1982. Application of remote sensing data to land use and land cover assessment in the Tubarao River coastal plain, Santa Catarina, Brazil. Sao Jose dos Campos, Brazil: Instituto de Pesquisas Espaciais.

Egan, W., and Hair, M. E. 1971. Automated delineation of wetlands in photographic remote sensing. Proceedings of the seventh international symposium on remote sensing of environment; May 17-21, 1971. Ann Arbor, Michigan: The University of Michigan. 2231-2251.

Enslin, W. R., and Sullivan, M. C. 1974. Use of color infrared photography for wetlands assessment. Conference on earth resource observations and infrared analysis systems: remote sensing of earth resources; March 25-27, 1974. Tullahoma, Tennessee: University of Tennessee. 697-719.

Estrin, S. A. 1986. The delineation and classification of inland wetlands utilizing FCIR stereo imagery. Symposium on remote sensing for resources development and environmental management; August 1986; Enschede. Rotterdam: Balkema. 713-716.

Gallagher, J. L., Reimold R. J., and Thompson, D. E. 1972. A comparison of four remote sensing media for assessing salt marsh primary productivity. Proceedings of the eighth international symposium on remote sensing of environment; October 2-6, 1972. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1287-1295.

Gammon, P. 1977. Vegetative communities of the Great Dismal Swamp: identification and mapping with seasonal color infrared photographs. Proceedings of the sixth biennial workshop on aerial color photography in the plant sciences and related fields; August 9-11, 1977; Colorado State University. Suffolk, Virginia: US Geological Survey, Water Resource Division. 111-131.

Gammon, P. T., and Carter, V. 1979. Vegetation mapping with seasonal color infrared photographs. Photogrammetric Engineering and Remote Sensing. 45(1): 87-97.

Garrett, M. K., and Carter, V. 1977. Contribution of remote sensing to habitat evaluation and management in a highly altered ecosystem. Transactions of the forty-second North American wildlife and natural resources conference. Washington, DC: Wildlife Management Institute. 56-65.

Haddad, K. D., and Harris, B. A. 1985. Assessment and trends of Florida's marine fisheries habitat: an integration of aerial photography and Thematic Mapper imagery. S. K. Mengel, and D. B. Morrison, editors. Eleventh international symposium on machine processing of remotely sensed data with special emphasis on quantifying global process: models, sensor systems, and analytical methods; June 25-27, 1985; Purdue University. West Lafayette, Indiana: Purdue University. 130-138.

Handley, L. R., Quammen, M. L., and Johnston, J. B. 1987. Wetlands analysis for lower San Francisco Bay. Coastal Zone '87: proceedings of the fifth symposium on coastal and ocean management; Seattle, WA. New York: ASCE. 1154.

Hansen, J. H. 1983. Automated classification of wetlands. Technical papers of the 49th annual meeting of the American Society of Photogrammetry; March 13-18, 1983. Washington, DC: American Society of Photogrammetry. 177-181.

Hardisky, M. A., and Klemas, V. 1983. Tidal wetlands natural and human-made changes from 1973 to 1979 in Delaware: mapping techniques and results. *Environmental Management*. 7(4): 339-344.

Haugen, R. K., McKim, H. L., and Marlar, T. L. 1976. Remote sensing of land use and water quality relationships - Wisconsin Shore, Lake Michigan. Available from the National Technical Information Service, Springfield, VA 22161 as AD-A030 746, Price codes: A04 in paper copy, A01 in microfiche. Report 76-30, August 1976. 47 p, 22 fig, 11 tab, 23 ref. NASA SR/T 160-75-89-05-10. Hanover, New Hampshire: US Army Engineers Cold Regions Research and Engineering Laboratory.

Hick, P. 1979. Remote sensing techniques applied to an estuarine environment problem in Western Australia. *Australian Journal of Instrumentation and Control*. 4-6.

Hofstetter, R. H., and Sonenshein, R. S. 1990. Vegetative changes in a wetlands in the vicinity of a well field, Dade County, Florida. Tallahassee, Florida: South Florida Water Management District.

Holman, R. E. III. 1975. The use of color infrared aerial photography in determining salt marsh vegetation and delimiting man-made structures of Lynnhaven Bay, Virginia. Norfolk, Virginia: Old Dominion University.

Howland, W. G. 1980. Multispectral aerial photography for wetland vegetation mapping. *Photogrammetric Engineering and Remote Sensing*. 46(1): 87-99.

Ibrahim, S., and Hashim, I. 1990. Classification of mangrove forest by using 1:40,000-scale aerial photographs. *Forest Ecology and Management*. 33/34: 583-592.

Jensen, J. R., Narumalani, S., Weatherbec, O. et al. 1991. Remote sensing offers an alternative for mapping wetlands. *Geo Info Systems*. 1(9): 46-53.

Johnston, J. B., and Longley, W. L. 1980. Remote sensing and its role in coastal resource studies. Proceedings of the fourteenth international symposium on remote sensing of environment; April 23-30, 1980; San Jose, Costa Rica. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1789-1797.

Keller, M. 1983. The application of remote sensing to wetland delineation for the planning function and regulatory functions in the Memphis District. US Army Corps of Engineers remote sensing symposium; November 7-9, 1983; Reston, Virginia. 437-438.

Kennard, W. C., and Lefor, M. W. 1977. Evaluation of freshwater wetlands definitions. Storrs, Connecticut: Institute of Water Resources, University of Connecticut.

Klemas, V., Bartlett, D. S., and Murillo, M. 1980. Remote sensing of coastal environment and resources. Proceedings of the fourteenth international symposium on remote sensing; April 23-20, 1980; San Jose, Costa Rica. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 543-562.

Klemas, V., Daiber, F. C., Bartlett, D. S. et al. 1973. Coastal vegetation of Delaware. Sea Grant Program.

Kolipinski, M. C., and Higer, A. L. 1968. Application of aerial photography and remote sensing to hydrobiological research in South Florida. US Geological Survey Open File Report.

Korpiaakko, E. A. 1975. Preliminary muskeg (peatland) inventory of the Province of New Brunswick. Canadian Journal of Earth Sciences. 24-27.

Lewis, A. J., Kim, S. T., Wilson, R. T. et al. 1975. Applied remote sensing of the lower Atchafalaya basin floodway. Proceedings of the tenth international symposium on remote sensing of environment; October 6-10, 1975. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1319-1328.

Liang, T., McNair, A. J., and Philipson, W. R. 1978. Cornell University Remote Sensing Program semiannual status report: December 1, 1977 - May 31, 1978. Washington, DC: National Aeronautics and Space Administration.

Lillesand, T. M., and Meisner, D. E. 1982. Application of scanning microdensitometer data in selected plant-science case studies. Journal of Applied Photographic Engineering. 40-45.

Lind, A. O., and Howland, W. G. Vegetation mapping in Lake Champlain wetlands. Burlington, Vermont: Vermont Water Resources Research Center.

Linde, A. F., and Janisch, T. P. 1978. Cover mapping wetland areas with the aid of 35mm low altitude color photography. Wetlands: ecology, values, and impacts: proceedings of the Waubesa conference on wetlands; June 2-5, 1977; Madison, Wisconsin. 306-323.



Link, L. E., and Long, K. S. 1979. Aquatic plant mapping by remote sensing. US Army Corps of Engineers remote sensing symposium; October 29-31, 1979; Reston, Virginia. 345-351.

Link, L. E., and Long, K. S. 1978. Large-scale demonstration of aquatic plant mapping by remote sensing. Proceedings of the twelfth international symposium on remote sensing of environment; April 20-26, 1978. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 907-915.

Linthurst, R. A., and Reimold, R. J. 1973. Existing aerial photographic resources of coastal Georgia and a brief listing of interpretative aids: technical report. Savannah, Georgia: Georgia Marine Science Center.

Long, K. S., and Link, L. E., Jr. 1977. Remote sensing of aquatic plants. Proceedings of the eleventh international symposium on remote sensing of environment; April 25-29, 1977. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 817-826.

Lowe, D. S. 1976. Remote sensing of wetlands, marshes, and shorelines in Michigan including St. John's Marsh: semiannual status report, June 1 - December 1, 1976. Ann Arbor, Michigan: Environmental Research Institute of Michigan.

Lyon, J. G. 1981. Inventory of coastal wetlands. Proceedings of the sixth biennial international estuarine research conference; November 1-5, 1981; Gleneden Beach, Oregon. 268.

Lyon, J. G., Gauthier, R., Greene, R. et al. 1985. Assessment of historical wetland loss and wetland regeneration from aerial photos, Landsat MSS and TM data. US Army Corps of Engineers fifth remote sensing symposium; October 28-30, 1985. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 108-115.

Mace, A. C., Jr. 1973. Evaluation of peatland water table elevation and water quality indicators. Applications of aerial photography and ERTS data to agricultural, forest and water resources management. St. Paul, Minnesota: Institute of Agriculture Remote Sensing Laboratory, University of Minnesota. 23-34.

McEwen, R. B., Kosco, W. J., and Carter, V. Coastal wetland mapping. Photogrammetric Engineering and Remote Sensing. 42(2): 221-232.

Mead, R. A., and Gammon, P. T. 1981. Mapping wetlands using orthophotoquads and 35-mm aerial photographs. Photogrammetric Engineering and Remote Sensing. 47(5): 649-652.

Metivier, E. D., and O'Malley, J. R. 1975. Coastal surveillance: a Georgia example. Symposium on the utilization of remote sensing data in the Southeast US; January 29-30, 1975; Athens, Georgia. Falls Church, Virginia: ASP. 1-12.

Meyer-Arendt, K. J., and Wicker, K. M. 1981. Classification and mapping habitats within the Mississippi River deltaic plain region. B. F. Richason, editor. Proceedings of the Pecora VII symposium; October 18-21, 1981; Sioux Falls, South Dakota. 163-174.

Mintzer, O. W., and Spragg, D. 1978. Mini-format remote sensing for civil engineering. American Society of Civil Engineers, Transportation Engineering Journal. 847-858.

Monakhov, M. A. 1973. Extrapolation of indicator schemes within salt marshes. Landscape indicators -- new techniques in geology and geography. New York: Plenum Press.

Montanari, J. A., and Townsend, J. E. 1977. Status of the National Wetlands Inventory. Transactions of the 42nd North American wildlife national resource conference; March 5-9, 1977; Atlanta, Georgia. 66-72.

Monte, J. A. 1981. Use of near color infrared photography to assess the impact of the oil and natural gas industry on Louisiana's wetlands. Proceedings of the 1981 IGARSS symposium; June 8-10, 1981; Washington, DC. New York: IEEE. 768-777.

Myers, V. I., Cox, T. L., and Best, R. G. 1976. Application of remote sensing technology to land evaluation, planning utilization of land resources, and assessment of wetland habitat in eastern South Dakota, Parts 1 and 2: annual progress report July 1, 1975 - June 30, 1976. Washington, DC: National Aeronautics and Space Administration.

Nyc, R., and Brooks, P. 1979. National Wetlands Inventory project: inventorying the Nation's wetlands with remote sensing. US Army Corps of Engineers: proceedings of the remote sensing symposium; October 29-31, 1979; Reston, Virginia. 333-343.

O'Toole, M. M., and Finkbeiner, M. A. 1986. Recent applications of aerial photography in the field of hazardous waste site management. Technical papers of the 1986 ASPRS-ACSM fall convention; Anchorage, Alaska. Falls Church, Virginia: ASPRS. 356-366.

Parada, N. D. J., and Valeriano, D. D. M. 1982. Application of remote sensing data to land use and land cover assessment in the Tubarao River coastal plain, Santa Catarina, Brazil. Presented at the international symposium on utilization of coastal ecosystems: planning, pollution and productivity; November 22-27, 1982; Rio Grande, Brazil.

Patterson, S. G. 1986. Mangrove community boundary interpretation and detection of areal changes on Marco Island, Florida: application of digital image processing and remote sensing techniques. Washington, DC: US Department of the Interior.

Peters, D. D. 1989. Status and trends of wetlands in the California Central Valley. *Wetlands: Concerns and Successes*. September: 33-44.

Pluhowski, E. J. 1989. Application of remotely sensed land-use information to improve estimates of streamflow characteristics. US Geological Survey Open File Report.

Pratt, T. R., Clewell, A. F., and Cleckley, W. O. 1989. Principal vegetation communities of the Choctawhatchee River flood plain, Northwest Florida. *Wetlands: Concerns and Successes*. September: 91-99.

Ruth, B. E., Degner, J. D., and Brooks, H. K. 1980. Sanitary landfill site selection by remote sensing. *Transportation Engineering Journal*, American Society of Civil Engineers. 661-675.

Sasser, C. E., Dozier, M. D., Gosselink, J. G. et al. 1986. Spatial and temporal changes in Louisiana's Barataria Basin marshes, 1945-1980. *Environmental Management*. 10(5): 671-680.

Scarpace, F. L., Quirk, B. K., Kiefer, R. W. et al. 1981. Wetland mapping from digitized aerial photography. *Photogrammetric Engineering and Remote Sensing*. 47(6): 829-838.

Slater, F. M. 1984. The mineral contents of both peat and plants and their inter-relationships at Borth Bog, Wales. *Proceedings of the seventh international peat congress; Dublin, Ireland*. 450-467.

Stewart, W. R., Carter, V., and Brooks, P. D. 1980. Inland (non-tidal) wetland mapping. *Photogrammetric Engineering and Remote Sensing*. 46(5): 617-628.

Stoeckeler, E. G., Farrell, R. S., and Woodman, R. G. 1974. To develop a land use-peak runoff classification system for highway engineering purposes. August, Maine: Maine Department of Transportation.

Thompson, D. E. 1972. Airborne remote sensing of Georgia tidal marshes. Operational remote sensing: an interactive seminar to evaluate current capabilities; February 1-4, 1972; Houston, Texas. Falls Church, Virginia: American Society of Photogrammetry. 126-139.

Turner, R. E. 1987. Aerial imagery interpretation of relationship between canal area and number of new ponds. *Proceedings of the eighth annual Gulf of Mexico information transfer meeting; New Orleans, Louisiana*. 196-198.

The use of color infrared photography for wetlands mapping with special reference to shoreline and waterfowl habitat assessment project for the use of remote sensing in land use policy formulation. 1973. East Lansing, Michigan: Michigan State University.

Watson, E. K., and Van Ryswyk, A. L. 1981. Remote sensing applications for British Columbia wetlands using 35mm aerial photography. Proceedings of the seventh Canadian Symposium on remote sensing; Winnipeg, Manitoba. Ottawa: Canadian Aeronautics & Space Institute. 211-221.

Weaver, M. G., Cross, G. H., and Mead, R. A. 1980. Repetitive aerial photography for assessing marsh vegetation change. Technical papers of the American Society of Photogrammetry ACSM-ASP Convention; March 9-14, 1980; St. Louis, Missouri. Falls Church, Virginia: American Society of Photogrammetry. 395-409.

Whitehurst, C. A. 1976. Interpretation of remote sensing data in the Bayou Lafourche delta of South Louisiana. Baton Rouge, Louisiana: Louisiana State University.

Whitehurst, C. A., Blanchard, W. A., and Doiron, L. N. 1977. The use of color infrared imagery for the study of marsh buggy tracks. Photogrammetric Engineering and Remote Sensing. 1049-1050.

Whitehurst, C. A., and Doiron, L. N. 1974. Geomorphic processes active in the Southwestern Louisiana Canal, Lafourche Parish, Louisiana. Baton Rouge, Louisiana: Louisiana State University, Division of Engineering Research.

Wilkie, D. S., and Larson, J. S. 1980. Municipal wells, land development and freshwater wetlands in Massachusetts. Amherst, Massachusetts: University of Massachusetts, Water Resources Research Center.

Williams, D. R., Balogh, M. E., and Foresman, T. W. 1986. Wetlands: a perspective for mapping, monitoring, and modeling. Technical papers of the 1986 fall technical meeting of the American Society of Photogrammetry and Remote Sensing; Anchorage, Alaska. Falls Church, Virginia: ASPRS. 379-380.

Wood, B. L. 1983. Wetland mapping in Colusa county, California. Proceedings of the Society of American Foresters international renewable resource inventories for monitoring conference; August 15-19, 1983; Corvallis, Oregon. 345-349.

Wynn, S. L., and Kiefer, R. W. 1977. Monitoring vegetation changes in a large impacted wetland using quantitative field data and quantitative remote sensing data. Conference proceedings of the fourth joint conference on sensing of environmental pollutants; November 6-11, 1977; New Orleans, Louisiana. 178-180.

Wynn, S. L., and Kiefer, R. W. 1985. Aerial photography and ground verification at power plant sites: Wisconsin power plant impact study. Madison, Wisconsin: University of Wisconsin.

Yeargen, M. E. 1984. Remote sensing, sedimentation and vegetation distribution within the coastal wetlands, Eastern St. Louis Bay, Mississippi. Brunton, G. D. Mississippi - Alabama Sea Grant Consortium report on modern and ancient sedimentary process and response within the Alabama linear barrier coastal system. Mississippi - Alabama Sea Grant Consortium. 142-152.

## **Landsat Multispectral Scanner (MSS)**

Ackleson, S. G., and Klemas, V. 1987. Remote sensing of submerged aquatic vegetation in lower Chesapeake Bay: a comparison of Landsat MSS to TM imagery. *Remote Sensing of Environment*. 22: 235-248.

Ackleson, S. G., Klemas, V., McKim, H. L. et al. 1985. A comparison of SPOT Simulator data with Landsat MSS imagery for delineating water masses in Delaware Bay, Broadkill River, and adjacent wetlands. *Photogrammetric Engineering and Remote Sensing*. 51(8): 1123-1129.

Akhavi, M. S., and Madjedi, M. 1975. Application of ERTS-1 imagery to water and marine resources in Iran. *Proceedings of the seminar on remote-sensing applications; Bangkok, Thailand. Economic and Social Community, Asia and Pacific Mineral Resources Section*. 92-100.

Amis, M. L., Lennington, R. K., Martin, M. V. et al. 1981. Evaluation of USDA large area crop estimation techniques. *Proceedings of the seventh international symposium on machine processing of remotely sensed data, with special emphasis on range, forest, and wetlands assessment; Purdue University. West Lafayette, Indiana: Purdue University*. 26-35.

Anderson, J. R., and Witmer, R. E. 1975. The National land use data program of the US Geological Survey. *Proceedings of the NASA earth resources survey symposium; June 9-12, 1975. Houston, Texas: National Aeronautics and Space Administration*. 1609-1615.

Anderson, R., Alsid, L., and Carter, V. 1975. Comparative utility of Landsat-1 and Skylab data for coastal wetland mapping and ecological studies. *Proceedings of the NASA earth resources survey symposium; June 1975. Houston, Texas: Lyndon B. Johnson Space Center, National Aeronautics and Space Administration*. 469-474.

Anderson, R. R., Carter, V., and McGinness, J. 1973. Applications of ERTS data to coastal wetland ecology with special reference to plant community mapping and typing and impact of man. *Third Earth Resources Technology Satellite-1 symposium; December 10-14, 1973; Washington, DC*. 1225-1242.

Anderson, R. R., Carter, V., and McGinness, J. 1973. Mapping Atlantic coastal marshlands, Maryland, Georgia, using ERTS-1 imagery. *Symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland*. 603-613.

Anderson, R. R., Carter, V., and McGinness, J. 1974. ERTS-1 investigation of wetlands ecology. *Washington, DC: The American University*.

Anuskiewicz, T., and Meador, R. 1982. Resourceful decisions: Landsat in Michigan. Detroit, Michigan: Michigan Energy and Resource Research Association.

Application of remote sensing technology to land evaluation, planning utilization of land resources, and assessment of wildlife areas in eastern South Dakota: semiannual progress report, 1 July - 31 December 1975. Brookings, South Dakota: South Dakota State University, Remote Sensing Institute.

Arp, G. K. 1975. The rationale for attempting to define salt marsh mosquito-breeding areas in Galveston County by remote sensing the associated vegetation. Proceedings of the NASA Earth Resources Survey Symposium; June 9-12, 1975. Houston, Texas: National Aeronautics Space Administration. 289-299.

Baldrige, P. E., Goesling, P. H., Leone, F. et al. 1975. Ohio's statewide land use inventory: an operational approach for applying Landsat data to state, regional and local planning programs. Proceedings of the NASA earth resources survey symposium; June 9-12, 1975. Houston, Texas: National Aeronautics and Space Administration. 1541-1552.

Bartlett, D. S. 1979. Spectral reflectance of tidal wetland plant canopies and implications for remote sensing. Doctoral dissertation. Newark, Delaware: University of Delaware.

Bartlett, D., Klemas, V., Philpot, W. et al. 1975. Applications of remote-sensing technology to environmental problems of Delaware and Delaware Bay. NASA earth resources survey symposium; 1975. Houston, Texas: National Aeronautics and Space Administration. 188-194.

Bartlett, D. S., Klemas, V., Chrichton, O. W. et al. 1976. Low-cost, aerial photographic inventory of tidal wetlands. Newark, Delaware: University of Delaware, College of Marine Studies, Center for Remote Sensing.

Bartlett, D. S., Klemas, V., Hamilton, P. et al. 1979. Quantitative assessment of emergent *Spartina alterniflora* biomass in tidal wetlands using remote sensing. Proceedings of workshop on wetland and estuarine processes and water quality modeling; June 18-20, 1979; New Orleans, Louisiana. New York: Plenum Publishing.

Bartlett, D. S., Klemas, V., Rogers, R. H. et al. 1977. Variability of wetland reflectance and its effect on automatic categorization of satellite imagery. Technical papers of the 1977 annual ASP/ACSM annual meeting; February 27 - March 5, 1977; Washington, DC, Falls Church, Virginia: American Society of Photogrammetry.

Bay, S. M., Chen, W. T., Freas, G. W., Jr. et al. 1977. National Conference of State Legislatures task force findings on feasible state uses of Landsat. Application of remote sensing to the Chesapeake Bay region proceedings; April 12, 1977; Berkeley Springs, West Virginia. Washington, DC: National Aeronautics and Space Administration.

Best, R. G., and Moore, D. G. 1979. Landsat interpretation of prairie lakes and wetlands of eastern South Dakota. M. Deutsch, D. R. Wiesnet, and A. Rango, editors. Proceedings of the fifth annual William T. Pecora memorial symposium on remote sensing: satellite hydrology; June 10-15, 1979; Sioux Falls, South Dakota. Minneapolis, Minnesota: American Water Resources Association. 499-506.

Bina, R. T., Jara, R., Lorenzo, E. et al. 1978. Detection and monitoring of water hyacinth (*Eichhornia crassipes*) infestation in Laguna de Bay through multispectral digital analysis of Landsat imageries. Proceedings of the twelfth international symposium on remote sensing of environment; April 20-26, 1978. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1791-1798.

Boemare, A., and Lenco, M. 1984. Study of Landscape Units, Ecozones and Biophysical Land Use in France's Drome Department Using Landsat Data. Proceedings of the eighteenth international symposium on remote sensing of environment; Paris, France. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 595-602.

Bond, A. D., Atkinson, R. J., Lybanon, M. et al. 1977. Digital computer processing of Landsat data for North Alabama. Huntsville, Alabama: Computer Sciences Corporation.

Brannon, D. P., and Irish, J. 1985. Satellite remote sensing and geographic information systems applied to biogeochemical flux estimates. 8. Biennial International Estuarine Research Conference Durham, NH 28 Jul 1985.

Brown, D., Gamble, J., and Prestin, S. 1973. ERTS-1 applications to Minnesota land use mapping. Proceedings of the symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics Space Administration. 991-997.

Brown, D., and Skaggs, R. 1974. Remote sensing applications to hydrology in Minnesota. A study of Minnesota forests and lakes using data from Earth Resources Technology Satellites: twenty-four month progress report. Minneapolis, Minnesota: University of Minnesota, Space Science Center. 81-196.



Bussom, D. E., Samson, S. A., and Rundquist, D. C. 1981. The wetlands inventory of the northern Great Plains: an example of operational remote sensing and data management. B. F. Richason, Jr., editor. Proceedings of Pecora VII symposium -- remote sensing: an input to geographic information systems in the 1980's; October 18-21, 1981; Sioux Falls, South Dakota. 373-382.

Butera, M. K. 1977. A technique for the determination of Louisiana marsh salinity zones from vegetation mapped by multispectral scanner data: a comparison of satellite and aircraft data. National Aeronautics and Space Administration.

Butera, M. K. 1979. Demonstration of Wetland Vegetation Mapping in Florida From Computer-Processed Satellite and Aircraft Multispectral Scanner Data. National Aeronautics and Space Administration.

Butera, M. K. 1981. Computer-implemented remote sensing techniques for measuring coastal productivity and nutrient transport systems. Proceedings of the fifth annual William T. Pecora memorial symposium on remote sensing: satellite hydrology; June 10-15, 1979; Sioux Falls, South Dakota. 522-532.

Butera, M. K., and Seyfarth, B. R. 1981. A determination of marsh detrital export from Landsat MSS data - a function of transport distance and water body characterization. P. G. Buroff, and D. B. Morrison, editors. Seventh international symposium on machine processing of remotely sensed data with special emphasis on range, forest, and wetlands assessment; June 23-26, 1981; Purdue University. West Lafayette, Indiana: Laboratory for Applications of Remote Sensing, Purdue University. 240-253.

Carter, V. (undated). Applications of remotely sensed data to wetland studies. J. J. Rycroft, and A. C. Strickland, editors. COSPAR: Space Research. Washington, DC: US Geological Survey. 19-23.

Carter, V. 1976. Computer mapping of coastal wetlands. Washington, DC: US Geological Survey.

Carter, V., Alsid, L., and Anderson, R. R. 1976. Man's impact upon wetlands. Washington, DC: US Geological Survey.

Carter, V., and Anderson, R. R. 1976. Coastal wetland mapping in the central Atlantic region. Washington, DC: US Geological Survey.

Carter, V., and Anderson, R. R. 1976. Tidal effects in coastal wetlands. Washington, DC: US Geological Survey.

Carter, V., Anderson, R. R., and McGinness, J. W., Jr. 1976. Wetland classification and mapping along the South Atlantic Coast. Washington, DC: US Geological Survey.

Carter, V., Garrett, M. K., Shima, L. et al. 1977. The Great Dismal Swamp: management of a hydrologic resource with the aid of remote sensing. *Water Resources Bulletin*. 13(1):1-12.

Carter, V., McGinness, J. W., Jr., and Anderson, R. R. 1976. Wetland mapping in a large tidal brackish-water marsh in Chesapeake Bay. Washington, DC: US Geological Survey.

Carter, V., and Richardson, K. A. 1981. Landsat digital analysis: implications for wetland management. *Proceedings of the seventh international symposium on machine processing of remotely sensed data with special emphasis on range, forest, and wetlands assessment*; Purdue University. West Lafayette, Indiana: Purdue University. 220-229.

Carter, V., and Schubert, J. 1974. Coastal wetlands analysis from ERTS MSS digital data and field spectral measurements. *Proceedings of the ninth international symposium on remote sensing of environment*; April 15-19, 1974. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1241-1260.

Carter, V., and Smith, D. G. 1973. Utilization of remotely-sensed data in the management of inland wetlands. Anson, A. Management and utilization of remote sensing data: proceedings of a symposium on remote sensing; October 29 - November 1, 1973; Sioux Falls, South Dakota. Falls Church, Virginia: American Society of Photogrammetry. 144-158.

Cartmill, R. H. 1974. Evaluation of satellite remote sensing and automatic data techniques for characterization of wetlands and coastal marshlands. Bay St. Louis, Mississippi: Earth Resources Laboratory, National Space Technology Laboratories.

Chase, P. E., Reed, L., and Smith, V. E. 1973. Utilization of ERTS-1 data to monitor and classify eutrophication of inland lakes. *Symposium on significant results obtained from the Earth Resources Technology Satellite-1*; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 1597-1604.

Clapp, J. L., Kiefer, R. W., McCarthy, M. M. et al. 1973. The use of ERTS-1 data for the inventory of critical land resources for regional land use planning. *Proceedings of the symposium on significant results obtained from the Earth Resources Technology Satellite-1*; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 1007-1014.

Colwell, J. E., Gilmer, D. S., Work, E. A., Jr. et al. 1978. Use of Landsat data to assess waterfowl habitat quality. Ann Arbor, Michigan: Environmental Research Institute of Michigan.

Conrod, A. C. 1973. Digital data processing of ERTS-1 imagery of Delaware Bay. Symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 1641-1647.

Cooper, S., Buckelew, T. D., McKim, H. L. et al. 1977. Landsat follow-on investigation no. 22510: the use of the Landsat data collection system and imagery in reservoir management and operation. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration.

Crapper, P. F. 1983. Review of current Australian work on the application of Landsat to land transformation processes. Study of land transformation processes from space and ground observations: proceedings of symposium 10 of the COSPAR 24th plenary meeting; Ottawa. New York: Pergamon Press. 161-165.

Dallam, W. C., Rango, A., and Shima, L. 1975. Hydrologic land use classification of the Patuxent River Watershed using remotely sensed data. Proceedings of the NASA Earth Resources Survey Symposium; June 9-12, 1975. Houston, Texas: National Aeronautics and Space Administration. 2351-2364.

Dawbin, K. W., Beach, D. W., Hoffer, R. M. et al. 1981. Crop monitoring in Australia using digital analysis of Landsat data. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 76-79.

de Jesus Parada, N., and de Morrison Valeriano, D. 1982. Application of remote sensing data to land use and land cover assessment in the Tubarao River coastal plain, Santa Catarina, Brazil. Sao Jose dos Campos, Brazil: Instituto de Pesquisas Espaciais.

Deutsch, M. 1972. Operational and experimental remote sensing in hydrology. Proceedings of CENTO seminar on the application of remote sensors in the determination of natural resources; November 10-13, 1971; Ankara, Turkey. Washington, DC: US Geological Survey. 95-105.

Downs, S. W. Jr, Sharma, G. C., and Bagwell, C. (Undated). A procedure used for a ground truth study of a land use map of North Alabama generated from Landsat data. Huntsville, Alabama: National Aeronautics and Space Administration.

Ernst, C. L., and Hoffer, R. M. 1979. Using Landsat MSS data with soils information to identify wetland habitats. M. Deutsch, D. R. Wiesnet, and A. Rango, editors. Proceedings of the fifth annual William T. Pecora memorial symposium on remote sensing: satellite hydrology; June 10-15, 1979; Sioux Falls, South Dakota. Minneapolis, Minnesota: American Water Resources Association. 474-478.

Everitti, J. H., Richardson, A. J., Gerbermann, A. H. et al. 1979. Landsat-2 data for inventorying rangelands in South Texas. Proceedings of the fifth annual symposium on machine processing of remotely sensed data; June 27-29, 1979; Purdue University. New York: IEEE. 132-141.

Fellows, J. D., and Hoffer, R. M. 1981. A georeferenced information system for real time hydrologic modeling. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University.

Finley, R. J. 1976. Interpretation of unenhanced Landsat imagery for wetland and land use delineation in the Texas coastal zone. Transactions of the Gulf Coast Association Geological Society. 279-297.

Finley, R. J., McCulloch, S., and Harwood, P. 1979. Landsat classification of coastal wetlands in Texas. M. Deutsch, D. R. Wiesnet, and A. Rango, editors. Proceedings of the fifth annual William T. Pecora Memorial symposium on remote sensing; June 10-15, 1979; Sioux Falls, South Dakota. Minneapolis, Minnesota: American Water Resources Association. 453-462.

Flores, L. M., Reeves, C. A., Hixon, S. B. et al. 1973. Unsupervised classification and areal measurement of land and water coastal features on the Texas coast. Symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 1675-1681.

Frank, T. D. 1981. Comprehensive geo-data base control with an electronic coordinate digitizer. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 497-504.

Frazier, B. E., Kiefer, R. W., and Krauskopf, T. M. 1975. Statewide wet land mapping using Landsat imagery. F. Shaahrokhi, editor. Remote sensing of earth resources: technical papers selected from the fourth annual remote sensing of earth resources conference; March 24-26, 1975. Tullahoma, Tennessee: The University of Tennessee Space Institute. 267-280.

Fukue, K., Shimoda, H., and Sakata, T. 1981. Complete lineament extraction with the aid of shadow-free Landsat image. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 94-102.

Gallo, K. P., and Daughtry, C. S. T. 1981. Spectrally derived inputs to crop yield models. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 52-65.

Gammon, P. T., Rohde, W. G., and Carter, V. 1979. Accuracy evaluation of Landsat digital classification of vegetation in the Great Dismal Swamp. M. Deutsch, D. R. Wiesnet, and A. Rango, editors. Proceedings of the fifth annual William T. Pecora memorial symposium on remote sensing; June 10-15, 1979; Sioux Falls, South Dakota. Minneapolis, Minnesota: American Water Resources Association. 463-473.

Garrett, M. K., and Carter, V. 1977. Contribution of remote sensing to habitat evaluation and management in a highly altered ecosystem. Transactions of the forty-second North American wildlife and natural resources conference. Washington, DC: Wildlife Management Institute. 56-65.

Gazzier, C. A., Frederking, R. L., and Minshew, V. H. 1980. Mapping coastal wetlands of Mississippi with remote sensing. F. Shahrokhi, editor. Proceedings of the seventh annual remote sensing of earth resources conference; Tullahoma, Tennessee. 187-198.

Gervin, J., and Shih, S. F. 1979. Improvements in lake volume predictions using Landsat data. M. Deutsch, D. R. Wiesnet, and A. Rango, editors. Proceedings of the fifth annual William T. Pecora memorial symposium on remote sensing; June 10-15, 1979; Sioux Falls, South Dakota. Minneapolis, Minnesota: American Water Resources Association. 479-484.

Gervin, J. C., and Shih, S. F. 1979. A technique for improved assessment of flow resistance characteristics of natural wetlands using Landsat data. M. Deutsch, D. R. Wiesnet, and A. Rango, editors. Proceedings of the fifth annual William T. Pecora memorial symposium on remote sensing; June 10-15, 1979; Sioux Falls, South Dakota. Minneapolis, Minnesota: American Water Resources Association. 507-511.

Gervin, J. C., and Shih, S. F. 1979. Wetland flow resistance determination using Landsat data. Joint Proceedings of the ASP-ACSM Fall Technical Meeting; September 17-20, 1979; Sioux Falls, South Dakota. Falls Church, Virginia: American Congress on Surveying and Mapping. 105-116.

Gilmer, D. S. 1977. Application of Landsat system for improving methodology for inventory and classification of wetlands. Jamestown, North Dakota: US Fish and Wildlife Service, Northern Prairie Wildlife Research Center.

Gilmer, D. S., Work, E. A., Jr., Colwell, J. E. et al. 1980. Enumeration of prairie wetlands with Landsat and aircraft data. Photogrammetric Engineering and Remote Sensing. 46(5): 631-634.

Godfrey, K. A. 1979. What future for remote sensing from space? Civil engineering - ASCE. 61-66.

Graff, J. M. 1976. Use of Landsat data to relate water depth to observed area of inundation in coastal marshes. Master's thesis. Baton Rouge, Louisiana: Louisiana State University.

Hampson, P. S. 1984. Wetlands in Florida. Tallahassee, Florida: Florida Bureau of Geology.

Hardin, D. I., and Imhoff, M. L. 1981. Monitoring wetlands change using Landsat data (Delaware, USA). Proceedings of the second eastern regional remote sensing applications conference; March 1981; Danvers, Massachusetts. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics Space Administration. 259-267.

Hayes, R. O., Maxwell, E. L., Mitchell, C. J. et al. 1985. Detection, identification, and classification of mosquito larval habitats using remote sensing scanners in Earth-orbiting satellites. Bulletin of WHO. 63361-374.

Hegyi, F., and Quenet, R. V. 1981. Applications of remote sensing techniques to update the forest inventory data base in British Columbia. Proceedings of the seventh international symposium on machine processing of remotely sensed data; ; Purdue University. West Lafayette, Indiana: Purdue University. 7.

Hick, P. 1979. Remote sensing techniques applied to an estuarine environment problem in Western Australia. Australian Journal of Instrumentation and Control. 4-6.

Higer, A. L., Coker, A. E., Schmidt, N. F. et al. 1975. An analysis and comparison of Landsat-1, Skylab (S-192) and aircraft data for delineation of land-water cover types of the Green Swamp, Florida. Miami, Florida: US Geological Survey, Water Resources Division.

Hixson, M. M. 1981. Techniques for evaluation of area estimates. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 84-90.

Hutton, S. M., and Dincer, T. 1979. Using Landsat imagery to study the Okavango Swamp, Botswana. M. Deutsch, D. R. Wiesnet, and A. Rango, editors. Proceedings of the fifth annual William T. Pecora memorial symposium on remote sensing; June 10-15, 1979; Sioux Falls, South Dakota. Minneapolis, Minnesota: American Water Resources Association. 512-519.

Jackson, T. J., Ragan, R. M., and McCuen, R. H. 1975. Land use classification for hydrologic models using interactive machine classification of Landsat data. Proceedings of the NASA Earth Resources Survey Symposium; June 9-12, 1975. Houston, Texas: National Aeronautics and Space Administration. 2365-2378.

Jarman, J. W. 1973. The Earth Resources Program of the Corps of Engineers. Symposium on significant results obtained from Earth Resource Technology Satellite-1; May 1973. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 127-141.

Jensen, J. R., Hodgson, M. E., Christensen, E. J. et al. 1984. Multispectral remote sensing of inland wetlands in South Carolina: selecting the appropriate sensor. Tenth international symposium on machine processing of remotely sensed data with special emphasis on Thematic Mapper data and geographic information systems; June 12-14, 1984; Purdue University. West Lafayette, Indiana: Purdue University. 144-152.

Johnston, I. L., and Howarth, P. J. 1981. Enhancement of Landsat data for Hudson Bay lowlands vegetation. Proceedings of the fifteenth international symposium on remote sensing of environment; May 11-15, 1981. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 623-633.

Johnston, J. B., and Longley, W. L. 1980. Remote sensing and its role in coastal resource studies. Proceedings of the fourteenth international symposium on remote sensing of environment; April 23-30, 1980; San Jose, Costa Rica. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1789-1797.

Jones, N. L., and Shahrokhi, F. 1977. Application of Landsat data to wetland study and land use classification in West Tennessee. Proceedings of the eleventh international symposium on remote sensing of environment; April 25-29, 1977; Ann Arbor, Michigan. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 609-613.

Kelley, J. 1981. Estuarine source of inner shelf suspended sediment. Proceedings of the 94th annual meeting of the Geological Society of America; Cincinnati, Ohio. 484.

Kerhin, R. T. 1974. Linear distribution of the high marsh vegetation communities of the Lower Easter Shore and its geological significance. Research and investigation of geology, mineral and water resources of Maryland. Baltimore, Maryland: Maryland Geological Survey, Johns Hopkins University. 1-19.

Klemas, V., Bartlett, D., Philpot, W. et al. 1977. Application of LANDSAT-2 to the management of Delaware's marine and wetland resources: progress report January - March 1977.

Klemas, V., Bartlett, D., Roger, R. et al. 1973. Inventories of Delaware's coastal vegetation and land-use utilizing digital processing of ERTS-1 imagery. Third Earth Resources Technology Satellite-1 symposium; December 10-14, 1973. Washington, DC: Goddard Space Flight Center, National Aeronautics and Space Administration. 1243-1255.

Klemas, V., Bartlett, D. S., and Philpot, W. D. 1980. Remote sensing as a technique for synoptic inventories of fisheries related resources. Proceedings of the fifth biennial international estuarine research conference Jekyll Island, Georgia, October 7-12 1979. 359-375.

Klemas, V., and Bartlett, D. 1977. Variability of wetland reflectance and its effect on automatic categorization of satellite imagery. Goddard Space Flight Center, National Aeronautics and Space Administration.

Klemas, V., Daiber, F., and Bartlett, D. 1973. Identification of marsh vegetation and coastal land use in ERTS-1 imagery. Symposium on significant results obtained from the Earth Resources Technology Satellite-1. National Aeronautics and Space Administration. 615-627.

Klemas, V., and Sma, R. 1973. Applicability of ERTS-1 imagery to the study of suspended sediment and aquatic fronts. Symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 1275-1290.

Kristof, S. J., and Mroczynski, R. P. 1981. Mapping hydric soils of Arctic and subarctic wetlands using Landsat MSS data. Proceedings of the 1981 fall meeting of the Indiana Academy of Science; Crawfordsville, Indiana. 549.

Landsat's role in State Coastal Management Programs. 1979. Washington, DC: National Aeronautics and Space Administration.

Lenco, M., and Dedieu, J.P. 1986. Present state, changes and quality of Sologne and Brenne, two French large wetlands, studied with the MSS and TM Landsat data. ESA/EARSeL symposium on Europe from space; June 25-28, 1986; Lyngby, Denmark. 259-261.

Lillesand, T. M., and Meisner, D. E. 1982. Application of scanning microdensitometer data in selected plant-science case studies. Journal of Applied Photographic Engineering. 40-45.

Lind, A. O., Henson, E. B., and Pelton, J. 1973. Environmental Study of ERTS-1 imagery: Lake Champlain and Vermont. Symposium on significant results obtained from the Earth Resources Technology Satellite-1. National Aeronautics and Space Administration. 643-650.

Linden, D. S., and Szajin, J. 1981. A double cluster sampling approach to Landsat classification accuracy assessment. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 83.



Lorenzo, E. N., de Jesus, B. R., Jr., and Jara, R. S. 1979. Assessment of mangrove forest deterioration in Zamboanga Peninsula, Philippines using Landsat MSS data. Proceedings of the thirteenth international symposium on remote sensing of environment; April 23-27, 1979. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1737-1745.

Lyon, J. G. 1981. Inventory of coastal wetlands. Proceedings of the sixth biennial international estuarine research conference; November 1-5, 1981; Gleneden Beach, Oregon. 268.

Lyon, J. G., Gauthier, R., Greene, R. et al. 1985. Assessment of historical wetland loss and wetland regeneration from aerial photos, Landsat MSS and TM data. US Army Corps of Engineers fifth remote sensing symposium; October 28-30, 1985. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 108-115.

Mairs, R. L., Wobber, F. J., Garofalo, D. et al. 1973. Application of ERTS-1 data to the protection and management of New Jersey's coastal environment. Proceedings of a symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 629-634.

Mercanti, E. P. 1974. Widening ERTS applications. Astronautic & Aeronautics. 28-41.

Mergerson, J. W. 1981. Crop area estimation using ground-gathered and sampled Landsat data. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 45-51.

Middleton, E. M., Lu, Y. C., Witt, R. G. et al. 1985. Relative accuracy assessment of Landsat-4 MSS and TM data for Level I land cover inventory. Landsat-4 science characterization early results. Washington, DC: National Aeronautics and Space Administration. 431-446.

Miller, W. F., Carter, B. D., Solomon, J. L. et al. 1980. Application of remote sensing to state and regional problems: semiannual progress report, May 1 - October 31, 1980. Washington, DC: National Aeronautics and Space Administration.

Moore, G. K., Baltzer, R. A., and Carter, V. 1978. Surface-water applications of Landsat data. US Geological Survey Professional Paper.

Morrow, J. W., Carter, V., and MacEwan, A. 1980. Wetland classification on the Alaskan north slope. Proceedings of the fifth Canadian symposium on remote sensing; August, 1978; Victoria, British Columbia. Ottawa: Canadian Aeronautics and Space Institute. 94-103.

Mower, R. D., and Heinrich, M. L. 1977. Computer processed (Landsat) land cover map of North Dakota. Technical papers selected from the annual conference on remote sensing of earth resources; March 29-31, 1977. Tullahoma, Tennessee: University of Tennessee. 295-307.

Mulligan, P. J., Gervin, J. C., and Lu, Y. C. 1983. Comparison of MSS and TM data for landcover classification in the Chesapeake Bay area: a preliminary report. J. L. Barker, editor. Proceedings of the Landsat-4 science characterization early results symposium; February 22-24, 1983. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 415-419.

Myers, V. I., Cox, T. L., and Best, R. G. 1976. Application of remote sensing technology to land evaluation, planning utilization of land resources, and assessment of wetland habitat in eastern South Dakota, Parts 1 and 2: annual progress report July 1, 1975 - June 30, 1976. Washington, DC: National Aeronautics and Space Administration.

Nayak, S., Gupta, M. C., Chauhan, H. B. et al. 1986. The application of Landsat data for coastal zone monitoring: a case study on the west coast of India. Proceedings of the regional seminar on the application of remote sensing techniques to coastal zone management and environmental monitoring; November 18-26, 1986; Dhaka, Bangladesh. 320-327.

Nayak, S. R., and Sahai, B. 1984. Coastal morphology: a case study of the Gulf of Khambhat (Cambay). *International Journal of Remote Sensing*. 6(3-4):559-567.

Odenyo, V. O., and Pettry, D. E. 1977. Land-Use mapping by machine processing of Landsat-1 data. *Photogrammetric Engineering and Remote Sensing*. 43(4): 515-523.

Pala, S. 1984. Operational peatland inventory in Ontario based on Landsat MSS analysis. Proceedings of the eighteenth international symposium on remote sensing of environment; October 1-5, 1984; Paris, France. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1962-1972.

Pala, S. 1984. TM vs. MSS in operational peatland inventory. Proceedings of the eighteenth international symposium on remote sensing of the environment; Paris, France. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1961-1972.

Parada, N. D. J., and Valeriano, D. D. M. 1982. Application of remote sensing data to land use and land cover assessment in the Tubarao River coastal plain, Santa Catarina, Brazil. Presented at the international symposium on utilization of coastal ecosystems: planning, pollution and productivity; November 22-27, 1982; Rio Grande, Brazil.

Paris, J. F. 1974. Coastal zone mapping from ERTS-1 data using computer-aided techniques. *Proceedings of the second Canadian symposium on remote sensing*. Canadian Society of Remote Sensing. 515-528.

Parks, W. L., Sewell, J. I., Hilty, J. W. et al. 1974. Utilizing ERTS imagery to detect plant diseases and nutrient deficiencies, soil types and soil moisture levels. Knoxville, Tennessee: University of Tennessee.

Pathan, S. K., and Parihar, J. S. 1983. Comparison of the potential and Bhaskara-II TV and Landsat MSS data for mapping of different land features. *Proceedings of the seventeenth international symposium on remote sensing of environment*. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1147-1155.

Pickering, S. M., and Jones, R. C. 1974. Geologic evaluation and applications of ERTS-1 imagery over Georgia. *Proceedings of the third Earth Resources Technology Satellite symposium*. Washington, D.C.: National Aeronautics and Space Administration. 41-49.

Raitala, J., Jantunen, H., and Lampinen, J. 1985. Application of Landsat satellite data for mapping aquatic areas in north-eastern Finland. *Aquatic Botany*. 21: 285-294.

Reeves, C. C., Jr. 1973. Dynamics of playa lakes in the Texas high plains. *Proceedings of the symposium on significant results obtained from the Earth Resources Technology Satellite-1*. Washington, DC: National Aeronautics and Space Administration. 809-817.

Rehder, J., and Quattrochi, D. 1978. The verification of Landsat data in the geographical analysis of wetlands in West Tennessee. Knoxville, Tennessee: University of Tennessee.

Ringrose, S., Matheson, W., and Boyle, T. 1988. Differentiation of ecological zones in the Okavango Delta, Botswana, by classification and contextual analyses of Landsat MSS data. *Photogrammetric Engineering and Remote Sensing*. 601-608.

Rochon, G., and Roksandic, M. 1981. Geologic application of Landsat imagery enhanced by topographic data. *Proceedings of the seventh international symposium on machine processing of remotely sensed data*; Purdue University. West Lafayette, Indiana: Purdue University. 124-131.

Roller, N. E. G. 1977. Remote sensing of wetlands. Ann Arbor, Michigan: Environmental Research Institute of Michigan.

Roque, C. R., Bina, R. T., Jara, R. S. et al. 1980. Application of Landsat data and selective aerial reconnaissance surveys to mangrove forest resource management in the Philippines. Proceedings of the fourteenth international symposium on remote sensing of environment; April 23-30, 1980; San Jose, Costa Rica. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1225-1226.

Rose, P. W., and Rosendahl, P. C. 1979. Landsat hydrobiological classification for and inland fresh water marsh within Everglades National Park. M. Deutsch, D. R. Wiesnet, and A. Rango, editors. Proceedings of the fifth annual William T. Pecora memorial symposium on remote sensing: satellite hydrology; June 10-15, 1979; Sioux Falls, South Dakota. Minneapolis, Minnesota: American Water Resources Association. 485-491.

Rundquist, D. C., and Gilbert, M. C. 1979. Wetland mapping using Landsat. US Army Corps of Engineers remote sensing symposium; October 29-31, 1979; Reston, Virginia. 329-332.

Rundquist, D. C., Lawson, M. P., Queen, L. P. et al. 1987. Relationship between summer-season rainfall events and lake-surface area. Water Resources Bulletin. 493-508.

Ruth, B. E., Degner, J. D., and Brooks, H. K. 1980. Sanitary landfill site selection by remote sensing. Transportation Engineering Journal, American Society of Civil Engineers. 661-675.

Sadowski, F. G. 1981. Alternative approaches for utilizing Landsat data to address forest and range applications. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 19.

Salomonson, V. V. 1973. Water resources. Proceedings of the symposium on significant results obtained from Earth Resources Technology Satellite-1; March 5-9, 1973. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 57-69.

Salomonson, V. V., and Rango, A. 1974. ERTS-1 applications in hydrology and water resources. Journal of the American Water Works Association. 168-172.

Satellites helping to solve down-to-earth civil engineering problems. 1975. Civil Engineering (ASCE). 49-53.

Sather-Blair, S., Linder, R. L., and Moore, D. G. 1980. Pheasant use of wetlands during the winter and application of Landsat imagery for assessing winter habitat ( South Dakota). Brookings, South Dakota: South Dakota State University.

Sattinger, I. J., and Dillman, R. D. 1973. Digital land use mapping in Oakland County, Michigan. Proceedings of the symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 1047-1054.

SeEVERS, P. M., Paterson, R. M., Mahoney, D. J. et al. 1975. A wetlands inventory of the state of Nebraska using ERTS-1 imagery. Remote sensing of earth resources: volume IV. Tullahoma, Tennessee: University of Tennessee. 281-292.

Sellman, B. 1973. Land resources survey for the state of Michigan. Proceedings of the symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 1083-1090.

Shahrokhi, F., Dyer, E. B., and Anonymous. 1977. Application of Landsat data to wetland study and land use classification in West Tennessee. Proceedings of the 32nd annual meeting of the Soil Conservation Society of America; Richmond, Virginia. 117-119.

Sharma, R. C., and Bhargawa, G. P. 1988. Landsat imagery for mapping saline soils and wet lands in North-West India. International Journal of Remote Sensing. 939-44.

Shen, Y. 1980. Landforms and reclamation measures in the Three-Rivers Plain, Heilongjiang Province, China. Acta Geographica Sinica. 35: 126-136.

Slack, R. B., and Welch, R. 1980. Soil conservation service runoff curve number estimates from Landsat data. Water Resources Bulletin. 887-893.

Sriplung, N. 1978. Thailand's littoral mudflats as interpreted from Landsat imagery. International Symposium on Remote Sensing of the Environment. 1978: 2045-2049.

Steffensen, R., Smith, A. M. An analysis of the spatial and temporal distribution of surficial waters in the Minnedosa wetland district of Manitoba, Canada. Proceedings of the twelfth international symposium on remote sensing of environment; April 20, 1978; Quezon City, Phillippines. Ann Arbor, Michigan: Environmental Research Institute of Michigan; 1978.

Still, D. A., and Shih, S. F. 1985. Using Landsat data to classify land use for assessing the basinwide runoff index. Water Resources Bulletin. 931-940.

Stoeckeler, E. G., Farrell, R. S., and Woodman, R. G. 1974. To develop a land use-peak runoff classification system for highway engineering purposes. August, Maine: Maine Department of Transportation.

Struve, H., and Kirk, W. L. 1980. Remote-sensing procedures for detecting and monitoring various activities regulated by the Mobile District: final report October 1976 - September 1978. Vicksburg, Mississippi: US Army Engineers Waterways Experiment Station.

Takahashi, H. 1981. A lineament enhancement technique for active fault analysis. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 103-112.

Tessar, P. A., Hood, D. R., and Todd, W. J. 1975. The South Dakota cooperative land use effort: a state level remote sensing demonstration project. Proceedings of the NASA earth resources survey symposium; June 9-12, 1975. Houston, Texas: National Aeronautics and Space Administration. 1499-1523.

Tilton, E. L., III. 1981. Application of space remote sensing technology to living marine resources in coastal zones. Advances in earth oriented applications of space technology. 89-96.

Tilton, E. L., III. 1983. Information extraction from thematic mapper data. Proceedings of the 34th congress of the International Astronautical Federation; Budapest, Hungary. New York: AIAA.

Tomlins, G. F., and Thomson, K. P. B. 1981. Toward an operational, satellite-based wetland monitoring program for the Fraser River estuary, British Columbia. Proceedings of the seventh Canadian symposium on remote sensing; Winnipeg, Manitoba. Ottawa, Ontario: Canadian Aeronautics & Space Institute. 74-82.

Van Tries, B. J. 1973. An evaluation of space acquired data as a tool for management of wildlife habitat in Alaska. Proceedings of the symposium on significant results obtained from the Earth Resources Technology Satellite-1. National Aeronautics and Space Administration. 795-799.

Wagner, T. W., and Fernandez, J. C. 1977. Application of Landsat data to the integrated economic development of Mindor, Phillippines. Proceedings of the eleventh international symposium on remote sensing of environment; April 25-29, 1977. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1375-1380.

Welch, R. A., and Hsu, A. Y. 1981. Statistical tests and interactive displays of Landsat classification accuracies. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 91-92.

Wickware, G. M., and MacEwan, A. 1980. Wetland mapping and environmental monitoring using digital Landsat data. Proceedings of the fifth Canadian symposium on remote sensing; August, 1978; Victoria, British Columbia. Ottawa: Canadian Aeronautics and Space Institute. 150-157.

Wickware, G. M., and Howarth, P. J. 1981. Change detection in the Peace-Athabasca Delta using digital Landsat data. *Remote Sensing of Environment*. 11: 9-25.

Williamson, A. N. 1981. Landsat Data for Regulatory Permit Monitoring. Proceedings of the fifth annual William T. Pecora memorial symposium on remote sensing; June 10-15, 1979; Sioux Falls, South Dakota. 270-277.

Williams, R. S., Jr. 1973. Coastal and submarine features on MSS imagery of southeastern Massachusetts: comparison with conventional maps. Proceedings of the symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 1413-1422.

Wood, B. L. 1983. Wetland mapping in Colusa county, California. Proceedings of the Society of American Foresters international renewable resource inventories for monitoring conference; August 15-19, 1983; Corvallis, Oregon. 345-349.

Work, E. A., Jr., Gilmer, D. S., and Klett, A. T. 1973. Preliminary evaluation of ERTS-1 for determining numbers and distribution of prairie ponds and lakes. Proceedings of the symposium on significant results obtained from the Earth Resources Technology Satellite-1. National Aeronautics and Space Administration. 801-808.

Wu, S. T. 1980. An improvement in land cover classification achieved by merging microwave data with Landsat Multispectral Scanner data. Technical papers of the 1980 ACSM-ASP convention; March 9-14, 1980; St. Louis, Missouri. 293-309.

Xu, S. R., Li, C.-C., and Flint, N. K. 1981. Extraction of geological lineaments from Landsat imagery by using local variance and gradient trend. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 113-123.

## **Landsat Thematic Mapper**

Ackleson, S. G., and Klemas, V. 1987. Remote sensing of submerged aquatic vegetation in lower Chesapeake Bay: a comparison of Landsat MSS to TM imagery. *Remote Sensing of Environment*. 22: 235-248.

Bartlett, D. S., Bartlett, K. B., Hartman, J. M. et al. 1989. Methane emissions from the Florida Everglades: patterns of variability in a regional wetland ecosystem. *Global Biogeochemical Cycles GBCYEP*. 363-374.

Bartlett, D. S., and Johnson, R. W. 1985. Remote sensing for ecological assessment of wetlands. Eighth biennial international estuarine research conference; July 28, 1985; Durham, New Hampshire. 7A.

Browder, J. A., May, L. N., Jr., Rosenthal, A. et al. 1989. Modeling future trends in wetland loss and brown shrimp production in Louisiana using Thematic Mapper imagery. *Remote Sensing of Environment*. 28: 45-59.

Browder, J. A., May, L. N., Rosenthal, A. et al. 1988. Utilizing remote sensing of Thematic Mapper data to improve our understanding of estuarine processes and their influence on the productivity of estuarine-dependent fisheries. Baton Rouge, Louisiana: Center for Wetland Resources, Louisiana State University.

Dobson, J. E., Bright, E. A. 1991. CoastWatch -- detecting change in coastal wetlands. *Geo Info Systems*. 1(1): 36-40.

Dottavio, C. L., and Dottavio, F. D. 1984. Potential benefits of new satellite sensors to wetland mapping. *Photogrammetric Engineering and Remote Sensing*. 20(5): 599-606.

Gervin, J. C., Mulligan, P. J., Lu, Y. C. et al. 1983. Hydrological planning studies using Landsat-4 Thematic Mapper. *Proceedings of the seventeenth international symposium on remote sensing of environment*; Ann Arbor, Michigan. Ann Arbor: Environmental Research Institute of Michigan. 1403-1412.

Gross, M. F., Hardisky, M. A., Klemas, V. et al. 1987. Quantification of biomass of the marsh grass *Spartina alterniflora* Loisel using Landsat Thematic Mapper imagery. *Photogrammetric Engineering and Remote Sensing*. 53(11): 1577-1583.

Haas, R. H., and Waltz, F. A. 1983. Evaluation of Thematic Mapper data for natural resource assessment. *Proceedings of the Pecora VIII symposium: satellite land remote sensing advancements for the eighties*; Sioux Falls, South Dakota. Sioux Falls, South Dakota: Augustana College. 122-133.



Haddad, K. D., and Harris, B. A. 1985. Assessment and trends of Florida's marine fisheries habitat: an integration of aerial photography and Thematic Mapper imagery. S. K. Mengel, and D. B. Morrison, editors. Eleventh international symposium on machine processing of remotely sensed data with special emphasis on quantifying global process: models, sensor systems, and analytical methods; June 25-27, 1985; Purdue University. West Lafayette, Indiana: Purdue University. 130-138.

Hardisky, M. A., and Klemas, V. 1985. Remote sensing of coastal wetlands biomass using Thematic Mapper wavebands. Evaluation of spatial, radiometric and spectral Thematic Mapper performance for coastal studies. Newark, Delaware: University of Delaware, College of Marine Studies.

Hardisky, M. A., Klemas, V., and Barker, J. L. 1985. Remote sensing of coastal wetlands biomass using Thematic Mapper wavebands. Symposium on Landsat-4 science characterization early results; February, 1983. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 151-270.

Hardisky, M. A., and Klemas, V. 1985. Remote sensing of wetland biomass and productivity. Eighth biennial international estuarine research conference; July 28, 1985; Durham, New Hampshire. 7A.

Hardisky, M., and Klemas, V. 1984. Aboveground biomass estimation in a tidal brackish marsh using simulated Thematic Mapper spectral data. Proceedings of the Landsat-4 early results symposium and the Landsat science characterization workshop; December, 1983; Greenbelt, Md. Washington, DC: National Aeronautics and Space Administration. 121-127.

Hawkins, H. 1990. Eye in the sky: satellite imagery aids Florida DOT. Public Works. 60-61.

Hewitt, M. J., III. 1990. Synoptic inventory of riparian ecosystems: the utility of Landsat Thematic Mapper data. Forest Ecology and Management. 33/34: 605-620.

Hodgson, M. E., Jensen, J. R., Mackey, H. E., Jr. et al. 1988. Monitoring wood stork foraging habitat using remote sensing and geographic information systems. Photogrammetric Engineering and Remote Sensing. 54(11): 1601-1607.

Hodgson, M. E., Jensen, J. R., Mackey, H. E., Jr. et al. 1987. Remote sensing of wetland habitat: a wood stork example. Photogrammetric Engineering and Remote Sensing. 53(8): 1075-1080.

Howey, T. W., and Blackmon, J. H. 1987. Use of a geographic information system as a tool for making land use management decisions for coastal wetlands in a state regulatory program. Coastal Zone '87: proceedings of the fifth symposium on coastal and ocean management; Seattle, Washington. New York: ASCE. 399-413.

Howman, A. 1988. The extrapolation of spectral signatures illustrates Landsats' potential to detect wetlands. Proceedings of IGARSS '88 symposium; September 13-16, 1988; Edinburgh, Scotland. 537-539.

Jensen, J. R., Coulter, M., Mackey, H. E. et al. 1985. Mapping of wood stork foraging habitat with satellite data. Proceedings of a combined meeting of Colonial Waterbird Group and Pacific Seabird Group; December 4, 1985; San Francisco, California. Aiken, South Carolina: Savannah River Ecology Laboratory.

Jensen, J. R., Hodgson, M. E., Christensen, E. J. et al. 1984. Multispectral remote sensing of inland wetlands in South Carolina: selecting the appropriate sensor. Tenth international symposium on machine processing of remotely sensed data with special emphasis on Thematic Mapper data and geographic information systems; June 12-14, 1984; Purdue University. West Lafayette, Indiana: Purdue University. 144-152.

Jensen, J. R., Hodgson, M. E., Coulter, M. et al. 1986. Feasibility study of wood stork foraging habitat mapping using Landsat multispectral data. Proceedings of freshwater wetlands and wildlife symposium; March 24, 1986; Charleston, South Carolina. Washington, DC: Department of Energy.

Karteris, M. A. 1990. Utility of digital Thematic Mapper data for natural resources classification. International Journal of Remote Sensing. 1589-1598.

Klema, V. 1986. Remote sensing investigations of wetland biomass and productivity for global biosystems research. Newark, Delaware: College of Marine Sciences, University of Delaware.

Klema, V. 1987. Remote sensing of estuaries and tide-dominated coastal processes. Proceedings of the 1987 national conference on hydraulic engineering; Williamsburg, Virginia. New York: ASCE. 1-12.

Klema, V., Ackleson, S. G., and Hardisky, M. A. 1985. Evaluation of spatial, radiometric and spectral Thematic Mapper performance for coastal studies. Newark, Delaware: College of Marine Sciences, University of Delaware.

Lacy, R., Somers, R., and Lipscomb, D. 1989. South Carolina's approach for evaluating and updating the National Wetlands Inventory. O. T. Magoon, H. Converse, D. Miner, et al., editors. Coastal Zone '89: proceedings of the sixth symposium on coastal and ocean management; July 11-14, 1989; Charleston, South Carolina. New York: American Society of Civil Engineers. 380-381.

Lenco, M., and Dedieu, J.P. 1986. Present state, changes and quality of Sologne and Brenne, two French large wetlands, studied with the MSS and TM Landsat data. ESA/EARSeL symposium on Europe from space; June 25-28, 1986; Lyngby, Denmark. 259-261.

Lyon, J. G., Gauthier, R., Greene, R. et al. 1985. Assessment of historical wetland loss and wetland regeneration from aerial photos, Landsat MSS and TM data. US Army Corps of Engineers fifth remote sensing symposium; October 28-30, 1985. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 108-115.

Middleton, E. M., Lu, Y. C., Witt, R. G. et al. 1985. Relative accuracy assessment of Landsat-4 MSS and TM data for Level I land cover inventory. Landsat-4 science characterization early results. Washington, DC: National Aeronautics and Space Administration. 431-446.

Mouganis-Mark, P., Ferrall, C., Gaddis, L. et al. 1984. Spaceborne and airborne radar, infrared and thermal studies of coastal processes at the Mississippi Delta, Louisiana. Proceedings of the tenth international symposium on machine processing of remotely sensing data with special emphasis on Thematic Mapper data and geographic information systems; June 12-14, 1984; Purdue University. West Lafayette, Indiana: Purdue University. 253-259.

Mulligan, P. J., Gervin, J. C., and Lu, Y. C. 1983. Comparison of MSS and TM data for landcover classification in the Chesapeake Bay area: a preliminary report. J. L. Barker, editor. Proceedings of the Landsat-4 science characterization early results symposium; February 22-24, 1983. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 415-419.

Mulligan, P. J., Lu, Y. C., and Gervin, J. C. 1983. Wetlands investigations using Thematic Mapper data. US Army Corps of Engineers remote sensing symposium; November 7-9, 1983; Reston, Virginia. 399-404.

Nayak, S., Gupta, M. C., Chauhan, H. B. et al. 1986. The application of Landsat data for coastal zone monitoring: a case study on the west coast of India. Proceedings of the regional seminar on the application of remote sensing techniques to coastal zone management and environmental monitoring; November 18-26, 1986; Dhaka, Bangladesh. 320-327.

Neraasen, T. G., Macaulay, A. J., and Mroczynski, R. P. 1981. Pintails and pixels: a potential application of Landsat technology to waterfowl habitat inventory. P. G. Burroff, D. B. Morrison, editors. Seventh international symposium machine processing of remotely sensing data with special emphasis on range, forest and wetlands assessment; June 23-26, 1981; Purdue University. West Lafayette, Indiana: Purdue University. 214-218.

Oslin, A. J. 1988. GIS to integrate remote sensing and CADD for engineering and environmental studies. GIS/LIS '88: Proceedings of the third international conference; San Antonio, Texas. ASPRS/ACSM. 407-416.

Pala, S. 1984. TM vs. MSS in operational peatland inventory. Proceedings of the eighteenth international symposium on remote sensing of the environment; Paris, France. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1961-1972.

Pluhowski, E. J. 1989. Application of remotely sensed land-use information to improve estimates of streamflow characteristics. US Geological Survey Open File Report.

Podolsky, R., and Conkling, P. 1991. Satellite search aids wetlands visualization. GIS World. 4(9): 80-85.

Quattrochi, D. A. 1983. An initial analysis of Landsat-4 Thematic Mapper data for the discrimination of agricultural, forested wetland, and urban land covers. J. Barker, editor. Proceedings of the Landsat-4 early results symposium and the Landsat science characterization workshop; February 22-24, 1983 and December 6, 1983. Greenbelt, Maryland: Goddard Space Flight Center and National Aeronautics and Space Administration. 111-112.

Raitala, J., Jantunen, H., and Lampinen, J. 1985. Application of Landsat satellite data for mapping aquatic areas in north-eastern Finland. Aquatic Botany. 21: 285-294.

Richardson, K. A. 1984. Wetlands classification using Landsat Thematic Mapper data unsupervised classification approach. Proceedings of the tenth international symposium on machine processing of remotely sensed data with special emphasis on Thematic Mapper data and geographic information systems; June 12-14, 1984; Purdue University. West Lafayette, Indiana: Purdue University. 154-158.

Smith, J. M. 1984. Landsat TM study of afforestation in Northern Scotland and its impact on breeding bird populations. Proceedings of the IGARSS '88 symposium; Edinburgh, UK. New York: IEEE. 1369-1370.

Vande, C. J. R., Lathrop, R. G., and Lillesand, T. M. 1988. Significance of GIS and remote sensing technology in Great Lakes monitoring and resource management. The Great Lakes: living with North America's inland waters -- proceedings of a symposium. Bethesda, Maryland: American Water Resources Association. 155-161.

Wharton, S., Ormsby, J., Salomonson, V. et al. 1984. Landsat Thematic Mapper studies of land cover spatial variability related to hydrology. Remote sensing from satellites. National Aeronautics and Space Administration. 217-226.

## Satellite Pour l'Observation de la Terre (SPOT)

Ackleson, S. G., Klemas, V., McKim, H. L. et al. 1985. A comparison of SPOT Simulator data with Landsat MSS imagery for delineating water masses in Delaware Bay, Broadkill River, and adjacent wetlands. *Photogrammetric Engineering and Remote Sensing*. 51(8): 1123-1129.

Dobson, J. E., and Bright, E. A. 1991. CoastWatch -- detecting change in coastal wetlands. *Geo Info Systems*. 1(1): 36-40.

Franklin, S. E., and Peddle, D. R. 1990. Classification of SPOT HRV imagery and texture features. *International Journal of Remote Sensing*. 11(3): 551-556.

Hardisky, M. A., and Klemas, V. 1985. Remote sensing of wetland biomass and productivity. Eighth biennial international estuarine research conference; July 28, 1985; Durham, New Hampshire. 7A.

Hawkins, H. 1990. Eye in the sky: satellite imagery aids Florida DOT. *Public Works*. 60-61.

Jensen, J. R., Narumalani, S., Weatherbee, O. et al. 1991. Remote sensing offers an alternative for mapping wetlands. *Geo Info Systems*. 1(9): 46-53.

Klemas, V. 1987. Remote sensing of estuaries and tide-dominated coastal processes. *Proceedings of the 1987 national conference on hydraulic engineering*; Williamsburg, Virginia. New York: ASCE. 1-12.

Mackey, H. E., Jr. 1989. Macrophyte mapping in ten lakes of South Carolina with multispectral SPOT HRV data. Special session of the summer American Society of Limnology and Oceanography, *Proceedings*; June 18-22, 1989; Fairbanks, Alaska.

Mackey, H. E., Jr., and Jensen, J. R. 1989. Wetlands mapping with multispectral SPOT HRV data. *Technical papers of the 1989 ASPRS/ACSM annual convention*; April 2-7, 1989; Baltimore, Maryland. 356-365.

Merry, C. J., Green, G., Devendorf, R. et al. 1984. Wildlife habitat mapping in Lac Qui Parle, Minnesota. *SPOT simulation applications handbook: proceedings of the 1984 SPOT symposium*; May 20-23, 1984; Scottsdale, Arizona. 205-208.

Oslin, A. J. 1988. GIS to integrate remote sensing and CADD for engineering and environmental studies. *GIS/LIS '88: Proceedings of the third international conference*; San Antonio, Texas. ASPRS/ACSM. 407-416.

Peddle, D. R., and Franklin, S. E. 1989. High resolution satellite image texture for moderate relief terrain analysis. Proceedings of IGARSS '89 - twelfth Canadian symposium on remote sensing; Vancouver, British Columbia. 653-655.

Vande, C. J. R., Lathrop, R. G., and Lillesand, T. M. 1988. Significance of GIS and remote sensing technology in Great Lakes monitoring and resource management. The Great Lakes: living with North America's inland waters -- proceedings of a symposium. Bethesda, Maryland: American Water Resources Association. 155-161.

## Radar

Benton, A. R., Jr., Blanchard, A. J., and Newton, R. W. 1983. Multifrequency radar interpretation techniques applied to the coastal zone. Technical papers of the 1983 ACSM-ASP fall convention; September 19-23, 1983; Salt Lake City, Utah. 157-166.

Blanchard, A. J., and Benton, A. R. Jr. 1983. Determination of mobility and trafficability indicators with multifrequency imaging radar. Proceedings of the 1983 IGARSS Symposium: Remote Sensing -- Extending Man's Horizon; San Francisco, California. New York: IEEE. 1-6.

Carsey, F., and Dixon, T. 1982. FIREX mission requirements document for renewable resources. Washington, DC: National Aeronautics and Space Administration.

Coulbourn, W. C. 1982. Some applications of photography, thermal imagery and X band side looking radar to the coastal zone. Tools for coastal zone management, proceedings of the conference; February 14-15, 1972; Washington, DC. 59-65.

Curtis, L. F. 1986. Remote sensing for environmental management of national parks with special reference to Exmoor. Journal of the British Interplanetary Society. 552-558.

Drake, B., and Patton, K. H. 1980. Land use/cover mapping from Seasat-A radar of the greater part of the Delmarva Peninsula, USA Proceedings of the fourteenth international symposium on remote sensing of environment; April 23-30, 1980; San Jose, Costa Rica. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1565-1575.

Drieman, J. A., Leckie, D. G., and Ahern, F. J. 1989. Multitemporal C-SAR for forest typing in eastern Ontario. Proceedings of IGARSS '89 - twelfth Canadian Symposium on Remote Sensing Vancouver, British Columbia. Piscataway, New Jersey: IEEE. 1376-1378.

Dufourmont, H., Longdon, N., and Melita, O. 1983. Interpretability of wetland on Seasat-1 imagery in the polderland of Flanders: a structural approach. Proceedings of the EARSeL/ESA symposium on remote sensing applications for environmental studies; Brussels. Noordwijk: Laboratory for Regional Geography and Landscape Studies, State University of Ghent. 129-132.

Ford, J. P. 1981. Effects of resolution versus speckle in spaceborne radar image interpretation; a geologic-user based analysis. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 132-138.

Gross, M. F., Hardisky, M. A., Doolittle, J. A. et al. 1990. Relationships among depth to frozen soil, soil wetness, and vegetation type and biomass in tundra near Bethel, Alaska, Arctic and Alpine Research. 275-282.

Guindon, B., Goodenough, D. G., Teillet, P. M. et al. 1981. The role of digital terrain models in the remote sensing of forests. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University.

Haugen, R. K., McKim, H. L., and Marlar, T. L. 1976. Remote sensing of land use and water quality relationships - Wisconsin Shore, Lake Michigan. Available from the National Technical Information Service, Springfield, VA 22161 as AD-A030 746, Price codes: A04 in paper copy, A01 in microfiche. Report 76-30, August 1976. 47 p, 22 fig, 11 tab, 23 ref. NASA SR/T 160-75-89-05-10. Hanover, New Hampshire: US Army Engineers Cold Regions Research and Engineering Laboratory.

Imhoff, M. L., and Gesch, D. B. 1990. Derivation of a sub-canopy digital terrain model of a flooded forest using synthetic aperture radar. Photogrammetric Engineering and Remote Sensing. 1155-1162.

Kessler, R. 1987. Applications of imaging radar for classification of forest vegetation. Photogrammetria. 41: 221-232.

Lyon, J. G. 1981. Inventory of coastal wetlands. Proceedings of the sixth biennial international estuarine research conference; November 1-5, 1981; Gleneden Beach, Oregon. 268.

Lyon, J. G., and McCarthy, J. F. 1981. Seasat imagery for detection of coastal wetlands. Proceedings of the fifteenth international symposium on remote sensing of environment; May 11-15, 1981. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1475-1485.

MacDonald, H. C., Waite, W. P., and Demarcke, J. A. S. 1981. Seasat radar geomorphic applications in coastal and wetland environments, southeastern US Technical papers of the 1981 fall technical meeting of the American Society of Photogrammetry; San Francisco, California. 181-190.

Mellor, J. C. 1983. Use of seasonal windows for radar and other image acquisition and Arctic lake region management. Proceedings of permafrost: fourth international conference; Fairbanks, Alaska. 832-837.

Mouganis-Mark, P., Ferrall, C., Gaddis, L. et al. 1984. Spaceborne and airborne radar, infrared and thermal studies of coastal processes at the Mississippi Delta, Louisiana. Proceedings of the tenth international symposium on machine processing of remotely sensing data with special emphasis on Thematic Mapper data and geographic information systems; June 12-14, 1984; Purdue University. West Lafayette, Indiana: Purdue University. 253-259.



Place, J. L. 1982. Test of airborne radar for mapping two types of land cover: forested wetland and perennial snow or ice. Reston, Virginia: US Department of Interior, US Geological Survey.

Rapley, C. G., Guzkowska, M. A. J., Cudlip, W. et al. 1987. Altimeter studies of inland water and land in preparation for ERTS-1. Proceedings of the IGARSS '87 symposium; Ann Arbor, Michigan. New York: IEEE. 241.

Rapley, C. G., Guzkowska, M. A. J., Cudlip, W. et al. 1987. Exploratory study of inland water and land altimetry using Seasat data: final report. Washington, DC: National Aeronautics and Space Administration.

Roller, N. E. G. 1977. Remote sensing of wetlands. Ann Arbor, Michigan: Environmental Research Institute of Michigan.

Ruzek, M., and Hoffer, R. 1985. Seasat and SIR-B: a comparison of a forest test site. Proceedings of the IGARSS '85 symposium; Amherst, Massachusetts. New York: IEEE. 579.

Ulanowicz, R. E. 1974. A survey for the use of remote sensing in the Chemical Bay region. Chesapeake Research Consortium.

Wedler, E., and Kessler, R. 1981. Interpretation of vegetative cover in wetlands using four-channel SAR imagery. Technical papers of the 1981 ASP-ACSM convention; February 22-27, 1981; Washington, DC. 111-125.

Wu, S. T. 1980. An improvement in land cover classification achieved by merging microwave data with Landsat Multispectral Scanner data. Technical papers of the 1980 ACSM-ASP convention; March 9-14, 1980; St. Louis, Missouri. 293-309.

## Aircraft Multispectral

- Bartlett, D. S., and Johnson, R. W. 1985. Remote sensing for ecological assessment of wetlands. Eighth biennial international estuarine research conference; July 28, 1985; Durham, New Hampshire. 7A.
- Bartlett, D. S., Klemas, V., Chrichton, O. W. et al. 1976. Low-cost, aerial photographic inventory of tidal wetlands. Newark, Delaware: University of Delaware, College of Marine Studies, Center for Remote Sensing.
- Butera, M. K. 1977. A technique for the determination of Louisiana marsh salinity zones from vegetation mapped by multispectral scanner data: a comparison of satellite and aircraft data. National Aeronautics and Space Administration.
- Butera, M. K. 1979. Demonstration of Wetland Vegetation Mapping in Florida From Computer-Processed Satellite and Aircraft Multispectral Scanner Data. National Aeronautics and Space Administration.
- Christensen, E. J. 1987. Digital change detection: a quantitative evaluation of image registration and wetland phenological characteristics using high resolution multispectral scanner data. Doctoral dissertation. Columbia, South Carolina: University of South Carolina.
- Christensen, E. J., Jensen, J. R., Ramsey, E. W. et al. 1988. Aircraft MSS data registration and vegetation classification for wetland change detection. *International Journal of Remote Sensing*. 9(1): 23-38.
- Christensen, E. J., Jensen, J. R., Ramsey, E. W. et al. 1986. Wetland vegetation change detection using high resolution aircraft MSS data. Technical papers of the 1986 ASPRS-ACSM fall convention Anchorage, Alaska. Falls Church, Virginia: American Society of Photogrammetry & Remote Sensing. 148-162.
- Cibula, W. G. 1972. Application of remotely sensed multispectral data to automated analysis of marshland vegetation. Bay St. Louis, Mississippi: Earth Resources Laboratory, Mississippi Test Facility.
- Dallam, W. C., Rango, A., and Shima, L. 1975. Hydrologic land use classification of the Patuxent River Watershed using remotely sensed data. Proceedings of the NASA Earth Resources Survey Symposium; June 9-12, 1975. Houston, Texas: National Aeronautics and Space Administration. 2351-2364.
- Gallagher, J. L., Reimold R. J., and Thompson, D. E. 1972. A comparison of four remote sensing media for assessing salt marsh primary productivity. Proceedings of the eighth international symposium on remote sensing of environment; October 2-6, 1972. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1287-1295.

Gilmer, D. S., Work, E. A., Jr., Colwell, J. E. et al. 1980. Enumeration of prairie wetlands with Landsat and aircraft data. *Photogrammetric Engineering and Remote Sensing*. 46(5): 631-634.

Gross, M. F., and Klemas, V. 1986. The use of Airborne Imaging Spectrometer (AIS) data to differentiate marsh vegetation. *Remote Sensing of Environment*. 19: 97-103.

Haugen, R. K., McKim, H. L., and Marlar, T. L. 1976. Remote sensing of land use and water quality relationships - Wisconsin Shore, Lake Michigan. Available from the National Technical Information Service, Springfield, VA 22161 as AD-A030 746, Price codes: A04 in paper copy, A01 in microfiche. Report 76-30, August 1976. 47 p, 22 fig, 11 tab, 23 ref. NASA SR/T 160-75-89-05-10. Hanover, New Hampshire: US Army Engineers Cold Regions Research and Engineering Laboratory.

Higer, A. L., Coker, A. E., Schmidt, N. F. et al. 1975. An analysis and comparison of Landsat-1, Skylab (S-192) and aircraft data for delineation of land-water cover types of the Green Swamp, Florida. Miami, Florida: US Geological Survey, Water Resources Division.

Howey, T. W., and Blackmon, J. H. 1987. Use of a geographic information system as a tool for making land use management decisions for coastal wetlands in a state regulatory program. Coastal Zone '87: proceedings of the fifth symposium on coastal and ocean management; Seattle, Washington. New York: ASCE. 399-413.

Jensen, J. R., Hale, A., and Mackey, H. E. 1986. Vegetational stress detection in a Southeastern swamp floodplain using remote sensing and in-situ spectral measurements. Proceedings of freshwater wetlands and wildlife symposium; March 24, 1986; Charleston, South Carolina. Washington, DC: Department of Energy.

Jensen, J. R., Hodgson, M. E., Christensen, E. J. et al. 1984. Multispectral remote sensing of inland wetlands in South Carolina: selecting the appropriate sensor. Tenth international symposium on machine processing of remotely sensed data with special emphasis on Thematic Mapper data and geographic information systems; June 12-14, 1984; Purdue University. West Lafayette, Indiana: Purdue University. 144-152.

Jensen, J. R., Hodgson, M. E., and Mackey, H. E. 1985. Remote sensing forest biomass for loblolly pine using high resolution airborne sensor data. Proceedings of forest land applications symposium; June 25, 1985; Seattle, Washington. Washington, DC: Department of Energy.

Jensen, J. R., Christensen, E. J., and Sharitz, R. 1984. Nontidal wetland mapping in South Carolina using airborne multispectral scanner data. *Remote Sensing of Environment*. 16: 1-12.

Jensen, J. R., Hodgson, M. E., Mackey, H. E., Jr. et al. 1987. Correlation between aircraft MSS and LIDAR remotely sensed data on a forested wetland. *Geocarto International*. 4: 39-54.

Jensen, J. R., Hodgson, M. E., Mackey, H. E., Jr. et al. 1987. Correlation between aircraft MSS and LIDAR remotely sensed data on a forested wetland in South Carolina. Technical papers of the 1987 fall convention of the American Society of Photogrammetry and Remote Sensing; October 4-9, 1987; Reno, Nevada.

Jensen, J. R., Hodgson, M. E., Christensen, E. et al. 1986. Remote sensing inland wetlands: a multispectral approach. *Photogrammetric Engineering and Remote Sensing*. 52(1): 87-100.

Jensen, J. R., Ramsey, E. W., Mackey, H. E., Jr. et al. 1986. Inland wetland change detection using aircraft MSS data. Aiken, South Carolina: Savannah River Plant, US Department of Energy.

Jensen, J. R., Ramsey, E. W., Mackey, H. E., Jr. et al. 1987. Inland wetland change detection using aircraft MSS data. *Photogrammetric Engineering and Remote Sensing*. 53(5): 521-529.

Klemas, V., Bartlett, D. S., and Murillo, M. 1980. Remote sensing of coastal environment and resources. Proceedings of the fourteenth international symposium on remote sensing; April 23-20, 1980; San Jose, Costa Rica. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 543-562.

Klemas, V., Bartlett, D. S., and Philpot, W. D. 1980. Remote sensing as a technique for synoptic inventories of fisheries related resources. Proceedings of the fifth biennial international estuarine research conference Jekyll Island, Georgia, October 7-12 1979; October 7-12, 1979; Jekyll Island, Georgia. 359-375.

Klemas, V., Daiber, F. C., Bartlett, D. S. et al. 1973. Coastal vegetation of Delaware. Sea Grant Program.

Klemas, V., Lyzenga, D., Matteoda, A. et al. 1990. New airborne sensors for monitoring estuaries and coastal waters in conjunction with satellites. Proceedings of Oceans '90; September 24-26, 1990; Washington, DC: IEEE. 422-427.

Ramsey, E. W., III, and Jensen, J. R. 1988. The derivation and verification of surface reflectances using airborne MSS data and a radiative transfer model. Technical papers of the 1988 fall technical meeting of the American Society of Photogrammetry and Remote Sensing; September 11-16, 1988; Virginia Beach, Virginia.

Redfield, A. E., and Thom, K. S. 1980. Use of CIR and airborne multi-spectral scanner techniques for wetland soilsmapping of highway corridors. Proceedings of the sixth annual symposium on machine processing of remotely sensed data and soil infrared systems; June 3-6, 1980; Purdue University. New York: IEEE. 205-213.

Roller, N. E. G. 1977. Remote sensing of wetlands. Ann Arbor, Michigan: Environmental Research Institute of Michigan.

Struve, H., and Kirk, W. L. 1980. Remote-sensing procedures for detecting and monitoring various activities regulated by the Mobile District: final report October 1976 - September 1978. Vicksburg, Mississippi: US Army Engineers Waterways Experiment Station.

Work, E. A., Jr., Gilmer, D. S., and Klett, A. T. 1973. Preliminary evaluation of ERTS-1 for determining numbers and distribution of prairie ponds and lakes. Proceedings of the symposium on significant results obtained from the Earth Resources Technology Satellite-1. National Aeronautics and Space Administration. 801-808.

## **Ground-Based Radiometer**

Bartlett, D. S., Bartlett, K. B., Hartman, J. M. et al. 1989. Methane emissions from the Florida Everglades: patterns of variability in a regional wetland ecosystem. *Global Biogeochemical Cycles GBCYEP*. 363-374.

Bartlett, D. S., and Johnson, R. W. 1985. Remote sensing for ecological assessment of wetlands. Eighth biennial international estuarine research conference; July 28, 1985; Durham, New Hampshire. 7A.

Bartlett, D. S., Klemas, V., Hamilton, P. et al. 1979. Quantitative assessment of emergent *Spartina alterniflora* biomass in tidal wetlands using remote sensing. Proceedings of workshop on wetland and estuarine processes and water quality modeling; June 18-20, 1979; New Orleans, Louisiana. New York: Plenum Publishing.

Bartlett, D. S., and Klemas, V. 1981. In situ spectral reflectance studies of tidal wetland grasses. *Photogrammetric Engineering and Remote Sensing*. 47(12): 1695-1703.

Bartlett, D. S., Klemas, V., Rogers, R. H. et al. 1977. Variability of wetland reflectance and its effect on automatic categorization of satellite imagery. Technical papers of the 1977 annual ASP/ACSM annual meeting; February 27 - March 5, 1977; Washington, DC Falls Church, Virginia: American Society of Photogrammetry.

Carter, V. P., and Anderson, R. R. 1972. Interpretation of wetlands imagery based on spectral reflectance characteristics of selected plant species. Proceedings of the 38th annual meeting of American Society of Photogrammetry; March 12-17, 1972; Washington, DC Falls Church, Virginia: American Society of Photogrammetry. 580-595.

Carter, V., and Schubert, J. 1974. Coastal wetlands analysis from ERTS MSS digital data and field spectral measurements. Proceedings of the ninth international symposium on remote sensing of environment; April 15-19, 1974. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1241-1260.

Haas, R. H., and Waltz, F. A. 1983. Evaluation of Thematic Mapper data for natural resource assessment. Proceedings of the Pecora VIII symposium: satellite land remote sensing advancements for the eighties. Sioux Falls, South Dakota: Augustana College. 122-133.

Hardisky, M. A., and Klemas, V. 1985. Remote sensing of coastal wetlands biomass using Thematic Mapper wavebands. Evaluation of spatial, radiometric and spectral Thematic Mapper performance for coastal studies. Newark, Delaware: University of Delaware, College of Marine Studies.

Hardisky, M. A., Klemas, V., and Barker, J. L. 1985. Remote sensing of coastal wetlands biomass using Thematic Mapper wavebands. Symposium on Landsat-4 science characterization early results; February, 1983. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 151-270.

Jensen, J. R., Hale, A., and Mackey, H. E. 1986. Vegetational stress detection in a Southeastern swamp floodplain using remote sensing and in-situ spectral measurements. Proceedings of freshwater wetlands and wildlife symposium; March 24, 1986; Charleston, South Carolina. Washington, DC: Department of Energy.

Klemas, V., and Bartlett, D. 1977. Variability of wetland reflectance and its effect on automatic categorization of satellite imagery. Goddard Space Flight Center, National Aeronautics and Space Administration.

Rao, K. R., Krishnan, R., Chakraborty, A. K. et al. 1981. Water quality models with different functions of Exotech radiometer bands. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 262-268.

## General Information

Anderson, J. R. 1971. Land use classification schemes used in selected recent geographic applications of remote sensing. *Photogrammetric Engineering*. 37(4): 379-387.

Anderson, J. R., Hardy, E. E., Roach, J. T. et al. 1976. A land use and land cover classification system for use with remote sensor data.

Barker, G. R., Hoffer, R. M., Mroczynski, R. P. et al. 1981. Resource information needs in industry and the role of remote sensing. Seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University.

Bartlett, D. S., and Klemas, V. 1979. Evaluation of remote sensing techniques for surveying coastal wetlands. Newark, Delaware: University of Delaware.

Beccasio, A. D., Redfield, A. E., Jarman, J. W. et al. 1979. The role of remote sensing in practical geotechnical and environmental applications; a consultant's approach. US Army Corps of Engineers remote sensing symposium; Reston, Virginia. Fort Belvoir, Virginia: US Army Engineering Topographic Laboratories. 113-123.

Butera, M. K. 1983. Remote sensing of wetlands. Proceedings of IGARSS '82: the promise of remote sensing; June 1-4, 1982; Munich, West Germany. New York: IEEE. 383-392.

Butera, M. K. 1985. Remote sensing of coastal wetlands: where is research headed? Integration of remote sensed data in geographic information systems for processing of global resource information: proceedings of a working group meeting; May 29-31, 1985. Washington, D.C.: Centre for Earth Resource Management Applications. 1-11.

Carter, V. 1977. Coastal wetlands: the present and future role of remote sensing. Proceedings of the eleventh international symposium on remote sensing of environment; April 25-29, 1977. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 301-323.

Carter, V. 1981. Remote sensing for wetland mapping and inventory. *Water International*. 6: 177-185.

Carter, V. 1982. Applications of remote sensing to wetlands. Johannsen, C. J., Sanders, J. L. Remote sensing for resource management. Ankeny, Iowa: Soil Conservation Society of America. 284-300.



Cowardin, L. M., Carter, V., Golet, F. C. et al. 1979. Classification of wetlands and deepwater habitats of the United States. Washington, DC: US Department of the Interior, Fish and Wildlife Service.

Donoghue, D., and Shennan, I. 1988. The application of remote sensing to environmental archaeology. *Geoarchaeology*. 3: 275-285.

Driscoll, R. S. 1981. Remote sensing: its role in meeting information needs. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 2-6.

Engman, E. T. 1982. Remote sensing application in watershed modeling. Applied Modeling in Catchment Hydrology (Proceedings of the International Symposium on Rainfall-Runoff Modeling); Mississippi State University, Mississippi. Littleton, Colorado: Water Resources Publications. 473-494.

Freyer, W. E., Monahan, T. J., Bowden, D. C. et al. 1983. Status and trends of wetlands and deepwater habitat in the conterminous United States, 1950s to 1970s. Fort Collins, Colorado: Department of Forest and Wood Sciences, Colorado State University.

Gallagher, J. L. 1974. Remote sensing as a tool for studying the ecology of halophytes. R. J. Reimold, and W. H. Queen, editors. Ecology of halophytes. New York: Academic Press, Inc. 511-523.

Gammon, P. T., Carter, V., Shima, L. J. et al. 1978. Wetland vegetation studies. US Geological Survey professional paper.

Gammon, P. T., Malone, D., Brooks, P. D. et al. 1977. Three approaches to the classification and mapping of inland wetlands. Proceedings of the eleventh international symposium on remote sensing of environment; April 25-29, 1977. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1545-1555.

Gatto, L. W. 1978. Estuarine processes and intertidal habitats in Grays Harbor, Washington: a demonstration of remote sensing techniques. Hanover, New Hampshire: Cold Regions Research and Engineering Laboratory, US Army Corps of Engineers.

Golterman, H. L., Clymo, R. S., Best, E. P. H. et al. 1988. Methods of exploration and analysis of the environment of aquatic vegetation. Handbook of Vegetation Science Series Vol. 15/1: Vegetation of inland waters. Boston, Massachusetts: Kluwer Academic Publishers. 31-62.

Guth, J. E. 1972. The National Ocean Survey coastal boundary mapping. Tools for coastal zone management; February 14-15, 1972; Washington, DC: 67-69.

Hardin, D. L. 1985. Remote sensing of wetlands for fish and wildlife habitat management in Delaware -- a comparison of data sources. Integration of remote sensed data in geographic information systems for processing of global resource information: proceedings of a working group meeting; May 29-31, 1985; Washington, DC. 31-38.

Harding, R. A. 1976. DNR: a source of environmental data. R. D. Andrews, III, R. L. Carr, F. Gibson, et al., editors. Proceedings of the symposium on terrestrial and aquatic ecological studies of the Northwest; March 26-27, 1976; Eastern Washington State University. Cheney, Washington: EWSC Press. 67-72.

Hardisky, M. A., Gross, M. F., and Klemas, V. 1986. Remote sensing of coastal wetlands. *Bioscience*. 36(7): 453-460.

Howard, A. D., Remson, I., Dickinson, W. R. et al. 1978. *Geology in environmental planning*. New York: McGraw-Hill Book Co.

Jensen, J. R. 1987. The use of pattern recognition in biophysical remote sensing. Proceedings of the sixtieth annual meeting of the South Carolina Academy of Science; Columbia, South Carolina. 76.

Kiefer, R. W. 1978. Multidisciplinary research on the application of remote sensing to water resources problems: progress report August 1977 - July 1978. Washington, DC: National Aeronautics and Space Administration.

Klemas, V. 1976. Remote sensing of coastal wetland vegetation and estuarine water properties. Proceedings of the third international estuarine research conference; Galveston, Texas. New York: Academic Press. 381-403.

Klemas, V. 1979. Remote sensing of coastal processes and resources. Proceedings of the US Army Corps of Engineers remote sensing symposium; Reston, Virginia. Fort Belvoir, Virginia: US Army Engineering Topographic Laboratories. 147-165.

Klemas, V. 1986. Remote sensing of estuaries: an overview. *Oceans 86* - conference record; September 23-25, 1986; Piscataway, New Jersey. New York, New York: IEEE. 302-309.

Lindgren, D. T. 1985. Land use planning and remote sensing. Remote sensing of earth resources & environment series 2. Martinus Nijhoff.

Lund, H. G. 1990. Inventory technology: "ebb tides," "flash floods," and "whirlpools." *Forest Ecology and Management*. 559-579.

Lyon, J. G. 1980. Data sources for analyses of Great Lakes wetlands. Technical papers of the American Society of Photogrammetry ACSM-ASP convention; March 9-14, 1980; St. Louis, Missouri. Falls Church, Virginia: American Society of Photogrammetry. 516-528.

Marmelstein, A. D. 1978. Remote sensing applications to wildlife management in the US Fish and wildlife service. Proceedings of the twelfth international symposium on remote sensing of environment. Ann Arbor, Michigan: Environmental Research Institute of Michigan.

McCulloch, S. 1984. Development of the Texas Natural Resources Inventory and Monitoring System (TNRIMS). Technical Papers of the 1984 ACSM-ASP Fall Convention; San Antonio, Texas. Falls Church, Virginia: ASP/ACSM. 751-761.

McElfish, J. M., and Adler, K. J. 1990. Swampbuster implementation: missed opportunities for wetland protection. Journal of Soil and Water Conservation. 45(3): 383-385.

Mead, R. A. 1981. Case studies on classification accuracy assessment. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University.

Mollard, J. D. 1982. Using remote sensing in water resource studies in western Canada: selected case histories. Johannsen, C. J., Sanders, J. L. Remote sensing for resource management. Ankeny, Iowa: Soil Conservation Society of America. 264-283.

Moor, J. H. 1981. Remote sensing in Alaska: opportunities and policy implications. Proceedings of the western regional remote sensing conference; Monterey, California. Moffett Field, California: NASA Ames Research Center. 43-48.

Munday, J. C., and Gordon, H. H. 1978. Application of remote sensing to estuarine management: annual report no. 6. Washington, DC: National Aeronautics and Space Administration.

Norton, D. J., and Prince, J. 1985. Use of remote sensing for wetlands assessment in hazardous waste sites. Proceedings of the nineteenth international symposium on remote sensing of environment; October 21-25, 1985. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 781-790.

Norton, D. J., and Slonecker, E. T. 1990. The ecological geography of EMAP. Geo Info Systems. 1(0): 33-43.

Nyc, R. 1980. In search of wetlands. Water Spectrum. Spring: 17-25.

Practical applications of space systems, supporting paper 7: environmental quality. 1975. Washington, DC: National Academy of Sciences.

Reimold, R. J., and Linthurst, R. A. 1975. Use of remote sensing for mapping wetlands. *Transportation Engineering Journal*, American Society of Civil Engineers. 189-198.

Roller, N. E. G. 1977. Remote sensing of wetlands. Ann Arbor, Michigan: Environmental Research Institute of Michigan.

Roller, N. E. G. 1981. Strategies for information - directed wetlands. Proceedings of the seventh international symposium on machine processing of remotely sensed data with special emphasis on range, forest, and wetlands assessment; Purdue University. West Lafayette, Indiana: Purdue University. 230-239.

Shaw, S. P., and Fredine, C. G. 1956. Wetlands of the United States: their extent and their value to waterfowl and other wildlife. Washington, DC: US Department of the Interior, Fish and Wildlife Service.

Striffler, W. D., and Fitz, D. C. 1980. Applications of remote sensing in hydrology. Colorado State University: Colorado Water Resources Research Institute.

Tiner, R. W. 1984. Wetlands of the United States: current status and recent trends. Washington, DC: National Wetlands Inventory, Fish and Wildlife Service, US Department of the Interior.

Weismuller, R. A., Kristof, S. J., Scholz, D. K. et al. 1977. Evaluation of change detection techniques for monitoring coastal zone environments. Proceedings of the eleventh international symposium on remote sensing of environment; April 25-29, 1977. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1129-1238.

Wilcox, D. A. 1987. A model for assessing interdisciplinary approaches to wetland research. *Wetlands: The Journal of the Society of Wetland Scientists*. 7: 39-49.

Wobber, F. J. 1975. Remote sensing trends in state resources management. *Photogrammetric Engineering and Remote Sensing*. 41(6): 735-740.

Zinn, J. A., and Copeland C. 1982. Wetland management. Washington, DC: Congressional Research Service, The Library of Congress.

## Unknown Sensor Type

Ackleson, S. G., and Klemas, V. 1983. Remote reconnaissance of submerged aquatic vegetation: a radiative transfer approach. US Army Corps of Engineers remote sensing symposium; November 7-9, 1983; Reston, Virginia. 197-211.

Anderson, R. R. 1972. Applications of high-altitude remote sensing to coastal zone ecological studies. Operational remote sensing: an interactive seminar to evaluate current capabilities; February 1-4, 1972; Houston, Texas. American Society of Photogrammetry. 191-195.

Applications of remote sensing to water resources. 1977. Gambrills, Maryland: ECOsystems International, Inc.

Baker, S. 1985. Land use and land cover classification of the North Carolina Barrier Islands: Level 3. Raleigh, North Carolina: North Carolina State University.

Barnard, T., MacFarlane, R. J., Neraasen, T. et al. 1981. Waterfowl habitat inventory of Alberta, Saskatchewan and Manitoba by remote sensing. Seventh Canadian symposium on remote sensing; September 8-11, 1981; Winnipeg, Manitoba. 150-158.

Barnes, C. M., and Cibula, W. C. 1979. Some implications of remote sensing technology in insect control programs including mosquitoes. Mosquito News. 271-282.

Bartlett, D. S. 1982. Remote sensing of tidal wetlands: mapping and beyond. Oceans '82 conference record: industry, government, education, partners in progress; Washington, DC. New York: IEEE. 458-463.

Bartlett, D. S., and Klemas, V. 1979. Assessment of tidal wetland habitat and productivity. Proceedings of the thirteenth international symposium on remote sensing of the environment; April 23-27, 1979. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 693-701.

Bartlett, D. S., and Klemas, V. 1980. Quantitative assessment of tidal wetlands using remote sensing. Environmental Management. 4(4): 337-345.

Bartlett, D. S., Whiting, G. J., and Hartman, J. M. 1990. Use of vegetation indices to estimate intercepted solar radiation and net carbon dioxide exchange of a grass canopy. Remote Sensing of Environment. 30: 115-128.

Behie, G., and Comillon, P. 1981. Remote sensing, a tool for managing the marine environment: eight case studies. Rhode Island: University of Rhode Island.

Benton, A. R., Jr., Clark, C. A., and Snell, W. W. 1980. Galveston Island - a changing environment. College Station, Texas: Texas A & M University.

Boissonneau, A. N., and Jeglum, J. K. 1975. A regional level of wetlands mapping for the northern Clay section of Ontario. Third Canadian symposium on remote sensing; September 22-24, 1975; Edmonton, Alberta. Ottawa: Canadian Aeronautics and Space Institute. 349-357.

Bradfield, G. E., and Campbell, A. 1986. Vegetation-elevation correlation in two dyked marshes of northeastern Vancouver Island: a multivariate analysis. *Canadian Journal of Botany*. 2487-2494.

Brodie, G. A. 1989. Selection and evaluation of sites for constructed wastewater treatment wetlands. *Constructed wetlands for wastewater treatment: municipal, industrial and agricultural*. Chelsea, Michigan: Lewis Publishers; 307-317.

Butera, M. K., Browder, J. A., and Frick, A. L. 1984. A preliminary report on the assessment of wetland productive capacity from a remote-sensing-based model -- a NASA/NMFS joint research project. *IEEE Transactions on Geoscience and Remote Sensing*. GE-22(6): 502-511.

Butera, M. K., and Frick, A. 1984. An analysis of the effect of biological and physical parameters of a wetlands grass biome on the spectral modelling of phytomass and primary productivity. *Proceedings of the IGARSS '84 Symposium*; August 27-30, 1984; Strasbourg. 209-216.

Carlson, M. P. 1977. Applications of remote sensing in resource management in Nebraska: annual report May 1, 1976 - April 30, 1977. Washington, DC: National Aeronautics and Space Administration.

Clough, S. R. 1983. Facies development and evolution of fluvial channels in the Cumberland marshes of Saskatchewan, Canada. Master's thesis. Chicago, Illinois: University of Illinois at Chicago.

Cotnoir, L. J. 1974. Marsh soils of the Atlantic Coast. R. J. Reimold, W. H. Queen, editors. *Ecology of halophytes*. New York: Academic Press, Inc. 441-447.

Delleur, J. W., and Lee, M. T. 1973. A rainfall-runoff model based on the watershed stream network. *Proceedings of the symposium on the design of water resources projects with inadequate data*; June 1973; Madrid, Spain. West Lafayette, Indiana: Purdue University.

Dudding, M. L. 1981. Monitoring land conversions from forest/wetland to agriculture. *Second eastern regional remote sensing applications conference*; Danvers, Massachusetts. 139-146.

Ehlers, M. 1982. Increase in correlation accuracy of remote sensing imagery by digital filtering. *Photogrammetric Engineering and Remote Sensing*. 415-420.

Erickson, J. D., and Thomson, F. J. 1974. Recent advancements in information extraction methodology and hardware for earth resources survey systems. Conference record of the IEEE International Conference on Communications; June 17-19, 1974; Minneapolis, Minnesota. New York: IEEE. Paper 32B.

Ernst-Dottavio, C. L., Hoffer, R. M., and Mroczynski, R. P. 1981. Spectral characteristics of wetland habitats. *Photogrammetric Engineering and Remote Sensing*. 47(2): 223-227.

Gagnon, H. 1982. The false argillaceous outflow of Toma Lake. *Geoscope*. 13: 28-39.

Gessler, P., McSweeney, K., Kiefer, R. et al. 1989. Analysis of contemporary and historical soil/vegetation/landuse patterns in southwest Wisconsin utilizing GIS and remote sensing technologies. Technical paper of the 1989 ASPRS/ACSM annual convention; Baltimore, Maryland. Falls Church, Virginia: ASPRS/ACSM. 85-92.

Giglierano, J. D. 1990. Geographic information system: Johnson County study. *Iowa Geology*. 15: 10-11.

Gilbert, M. C., Freel, M. W., and Bieber, A. 1980. Remote sensing and field evaluation of wetlands in the Sandhills of Nebraska. Omaha, Nebraska: US Army Corps of Engineers, Omaha District.

Gordon, H. H., Penney, M. E., and Byrne, R. J. 1974. Remote sensing applications in marine science programs at VIMS. Gloucester Point, Virginia: Virginia Institute of Marine Science.

Goswami, R. K. 1982. A study of wetlands using geochemical, remote sensing, and multivariate analytical techniques. Doctoral dissertation. Knoxville, Tennessee: University of Tennessee.

Gross, M. F., Hardisky, M. A., and Klemas, V. 1988. Effects of solar angle on reflectance from wetland vegetation. *Remote Sensing of Environment*. 26: 195-212.

Gross, M. F., Klemas, V., and Hardisky, M. A. 1990. Long-term remote monitoring of salt marsh biomass. Proceedings, SPIE's 1990 technical symposium on optical engineering and photonics in aerospace sensing; April 16-20, 1990; Orlando, Florida. Earth Observing Systems.

Gross, M. F., Klemas, V., and Levasseur, J. E. 1988. Remote sensing of biomass of salt marsh vegetation in France. *International Journal of Remote Sensing*. 9(3): 397-408.

Gross, M. F., Hardisky, M. A., and Klemas, V. 1990. Inter-annual spatial variability in the response of *Spartina alterniflora* biomass to amount of precipitation. *Journal of Coastal Research*. 6(4): 949-960.

Halasi-Kun, G. J., editor. 1979. Status of tidal surveying and monuments in New Jersey. Proceedings of University seminar on pollution and water resources. 1-5.

Hardisky, M. A., Smart, R. M., and Klemas, V. 1983. Seasonal spectral characteristics and aboveground biomass of the tidal marsh plant, *Spartina alterniflora*. Photogrammetric Engineering and Remote Sensing. 49(1): 85-92.

Hardisky, M. A., Daiber, F. C., Roman, C. T. et al. 1984. Remote sensing of biomass and annual net aerial primary productivity of a salt marsh. Remote Sensing of Environment. 16: 91-106.

Hill, J. M., and Turnipseed, P. 1989. Spatial analysis of coastal land loss by soil type. Journal of Coastal Research. 5.

Honey, F. R., Hick, P. T., and Blatchford, D. R. 1978. Multi-level inventory and monitoring of wetlands on the Swan Coastal Plain, Western Australia. Proceedings of the twelfth international symposium on remote sensing of environment; April 20-26, 1978. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 2027-2044.

Jensen, J. R., Christensen, E. J., and Mackey, H. E., Jr. 1986. Vegetation change detection in the Savannah River Swamp. Proceedings of the freshwater wetlands and wildlife symposium; March 24-27, 1986; Charleston, South Carolina.

Johnson, R. W., and Bartlett, D. S. 1985. Remote sensing in large scale biogeochemical research. Proceedings of the 1985 IGARSS: remote sensing instrumentation -- technology for science and applications; Amherst, MA. New York: IEEE.

Krieger, K. A. 1989. Lake Erie estuarine systems: issues, resources, status, and management. NOAA Estuary-of-the-Month Seminar Series No. 14.

Lambert, E., Lavoie, A., Dubois, J. M. et al. 1984. Remote sensing the near-shore vegetation of Quebec coasts. Proceedings of the eighteenth international symposium on remote sensing of environment; October 1-5, 1984; Paris, France. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 535-541.

Leu, D. J. 1982. A procedure for merging remote sensing and field sampling methods to assess existing and historic environmental conditions of coastal wetlands. Doctoral dissertation. Newark, Delaware: University of Delaware.

Lunetta, R. S., Bong, S. S., Stoll, J. K. 1985. Using remotely sensed data to map vegetative cover for habitat evaluation in the Saginaw River Basin. US Army Corps of Engineers fifth remote sensing symposium; October 28-30, 1985. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 150-159.



- Lyon, J. G. 1979. Remote sensing analysis of coastal wetland characteristics: the St. Clair Flats, Michigan. Proceedings of the thirteenth international symposium on remote sensing of environment; April 23-27, 1979. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1117-1129.
- Lyon, J. G. 1989. Remote sensing of suspended sediments and wetlands in western Lake Erie. NOAA estuary of the month seminar series: Lake Erie estuarine systems -- issues, resources, status and management. Washington, DC: National Oceanic and Atmospheric Administration. 125-147.
- Mattraw, H. C., Jr., Elder, J. F. 1980. Nutrient yield of the Apalachicola River Flood Plain, Florida: river-quality assessment plan. Washington, DC: US Geological Survey, Water Resources Investigations.
- Mugler, J. P., Jr., Godfrey, J. P., Hickman, G. D. et al. 1977. Role of remote sensing in Bay measurements. Proceedings of the application of remote sensing to the Chesapeake Bay region; April 12, 1977; Berkeley Springs, West Virginia. Washington, DC: National Aeronautics and Space Administration.
- Novikov, S. M. 1988. Up-to-date method to study marsh-ridden areas in West Siberia. Proceedings of the international symposium on the hydrology of wetlands in temperate and cold regions; June 6-8, 1988; Joensuu, Finland. Helsinki, Finland: The Academy of Finland. 14-17.
- Ormsby, J. P., Gervin, J. C., Nickeson, J. E. et al. 1985. Wetland physical and biotic studies using multispectral data. US Army Corps of Engineers fifth remote sensing symposium; October 28-30, 1985. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 429-438.
- Pala, S. 1982. Practical automated mapping system. Satellite Remote Sensing for Developing Countries: Proceedings of an EARSeL-ESA Symposium (European Association of Remote Sensing Laboratories- European Space Agency); Igls, Austria. Paris, France: European Space Agency. 217-218.
- Pala, S., Boissonneau, A. 1982. Wetland classification maps for the Hudson Bay lowland. Proceedings of the James and Hudson Bay symposium; Guelph, Ontario, Canada. Le Naturaliste Canadien. 653-659.
- Park, R. A., Trehan, M. S., Mausel, P. W. et al. 1989. Coastal wetlands in the twenty-first century: profound alterations due to rising sea level. Wetlands: concerns and successes. 71-80.
- Parrott, W. R., Jr., Reynolds, P. E., Hain, D. C. et al. 1981. Computer mapping of seasonal groundwater fluctuations for two differing southern New Jersey swamp forests. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 653-667.

Pearlstine, L., and Kitchens, W. 1985. Community succession modeling for resource management. Coastal Zone '85: proceedings of the fourth symposium on coastal and ocean management; Baltimore, Maryland. New York: ASCE. 1369-1381.

Penney, M. E., and Gordon, H. H. 1975. Remote sensing of wetlands in Virginia. Proceedings of the tenth international symposium on remote sensing of environment; October 6-10, 1975. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 495-503.

Pollara, V. J., Vanderbilt, V. C., and Daughtry, C. S. T. 1981. A technique to determine which crop development stages can be estimated from spectral data. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 66-75.

Quinn, A. O. 1972. Photogrammetry aids solution of environment problems. Journal of the Surveying and Mapping Division, American Society of Civil Engineers. 87-92.

Ronshagen, C. S. 1989. Breedlove Dennis & Assoc Inc, Orlando, Fl., Carlson, G. L., Breedlove, B. W. Integrating CAD/GIS for environmental planning: a case study. Technical papers of the 1989 fall meeting of the ASPRS; September 17-21, 1989; Cleveland, Ohio. Falls Church, Virginia: ASPRS. 7-13.

Rousseau, J. 1984. Remote sensing applications for coastal/marine planning and management in developing countries. Proceedings of the eighteenth meeting of the Association of Island Marine Laboratories of the Caribbean; August 13, 1984; St. James, Trinidad. 3.

Rundquist, D. C. 1983. Wetland inventories of Nebraska's Sandhills. Resource report. Lincoln, Nebraska: University of Nebraska, Conservation and Survey Division. 9.

Shacham, S., Chesters, G., and McLellan, H. 1984. Documentation of the data base: Wisconsin power plant impact study. Madison, Wisconsin: University of Wisconsin.

Sheng, Y. P., Hamilton, P., and Macdonald, K. B. 1980. Modeling sediment transport in a shallow lake. Proceedings of a workshop on wetland and estuarine processes and water quality modeling; June 18-20, 1979; New Orleans, Louisiana. New York: Plenum Publishing Corporation.

Shepherd, W. 1978. A study of Minnesota land and water resources using remote sensing: progress report January 1 - December 31, 1978. Washington, DC: National Aeronautics and Space Administration.

Sivertson, E. 1990. Remote sensing: a high tech tool for Virginia. Papers from the annual conference of the Urban & Regional Information Systems Association; Edmonton, Alberta. Washington, DC: URISA.

Thompson, M. D., and Dams, R. V. 1986. Remote sensing as a tool for Alberta agricultural wetlands drainage inventory. M. D. Thompson, and R. J. Brown, editors. Proceedings of the tenth Canadian symposium on remote sensing; May 5-8, 1986; Edmonton, Alberta. 829-840.

Ulanowicz, R. E. 1974. A survey for the use of remote sensing in the Chemical Bay region. Chesapeake Research Consortium.

Wadsworth, J. R., Jr. 1983. Quantitative analysis of a subtle terrace bordering Okefenokee Swamp. Proceedings of the 32nd annual meeting, Southeastern Section, Geological Society of America; with the Southeast Section of the National Association of Geology Teachers and the Southeastern Section of the Paleontological Society; Tallahassee, Florida. Geological Society of America. 56.

Welch, R., Lo, H. C., and Pannell, C. W. 1979. Mapping China's new agricultural lands. Photogrammetric Engineering and Remote Sensing. 45(9): 1211-1228.

Werth, L. F., and Meyer, M. P. 1979. A comparison of remote sensing techniques for Minnesota wetlands classification. M. Deutsch, D. R. Wiesnet, and A. Rango, editors. Proceedings of the fifth annual William T. Pecora memorial symposium on remote sensing: satellite hydrology; June 10-15, 1979; Sioux Falls, South Dakota. Minneapolis, Minnesota: American Water Resources Association. 492-498.

Wicker, K. M., and Meyer-Arendt, K. J. 1981. Utilization of remote sensing in wetland management. B. F. Richason, Jr., editor. Proceedings of the Pecora VII symposium -- remote sensing: an input to geographic information systems in the 1980's; October 18-21, 1981; Sioux Falls, South Dakota. 217-229.

Wood, B. L., and Beck, L. H. 1982. Geographic information system for Colusa County, California. Proceedings of the eighth international symposium on machine processing of remotely sensed data with special emphasis on crop inventory and monitoring; Purdue University. West Lafayette, Indiana: Purdue University. 374-401.

Wood, B., and Beck, L. 1986. Remote sensing of wetland plant stress. Proceedings of IGARSS '86 symposium; September 8-11, 1986; Zurich, Switzerland. 1383-1386.

Woodzick, T. L., and Maxwell, E. L. 1977. Multidate mapping of mosquito habitat. Proceedings of the eleventh international symposium on remote sensing of environment: April 25-29, 1977. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 979-989.

## Other Sensor Types

Anderson, R., Alsid, L., and Carter, V. 1975. Comparative utility of Landsat-1 and Skylab data for coastal wetland mapping and ecological studies. Proceedings of the NASA earth resources survey symposium; June 1975. Houston, Texas: Lyndon B. Johnson Space Center, National Aeronautics and Space Administration. 469-474.

Bartlett, D. S. 1982. Remote sensing of tidal wetlands: mapping and beyond. Oceans '82 conference record: industry, government, education, partners in progress; Washington, DC. New York: IEEE. 458-463.

Chen, E., and Allen, L. H., Jr. 1987. Comparison of HCMM and GOES satellite temperatures and evaluation of surface statistics. Remote Sensing of Environment. 21: 341-353.

Coker, A. E., Higer, A. L., Rogers, R. H. et al. 1975. Automatic categorization of land-water cover types of the Green Swamp, Florida, using Skylab Multispectral Scanner (S-192) data. Proceedings of the NASA earth resources survey symposium; June 1975. Houston, Texas: Lyndon B. Johnson Space Center, National Aeronautics and Space Administration. 479-506.

Dobson, J. E., and Bright, E. A. 1991. CoastWatch -- detecting change in coastal wetlands. Geo Info Systems. 1(1): 36-40.

Giddings, L., and Choudhury, B. J. 1989. Observation of hydrological features with Nimbus-7 37 GHz data, applied to South America. International Journal of Remote Sensing. 1673-1686.

Hecht, L. G., Jr. 1991. Monitoring the Chesapeake Bay in real time. GIS World. 4(9): 88-93.

Higer, A. L., Coker, A. E., Schmidt, N. F. et al. 1975. An analysis and comparison of Landsat-1, Skylab (S-192) and aircraft data for delineation of land-water cover types of the Green Swamp, Florida. Miami, Florida: US Geological Survey, Water Resources Division.

Jensen, J. R., Hodgson, M. E., Mackey, H. E., Jr. et al. 1987. Correlation between aircraft MSS and LIDAR remotely sensed data on a forested wetland. Geocarto International. 4: 39-54.

Jensen, J. R., Hodgson, M. E., Mackey, H. E., Jr. et al. 1987. Correlation between aircraft MSS and LIDAR remotely sensed data on a forested wetland in South Carolina. Technical papers of the 1987 fall convention of the American Society of Photogrammetry and Remote Sensing; October 4-9, 1987; Reno, Nevada.

Johnson, H. D. 1981. State (California) resource management and role of remote sensing. Proceedings of the western regional remote sensing conference; Monterey, California. Moffett Field, California: NASA Ames Research Center. 20-25.

Klemas, V. 1978. Application of Landsat to the management of Delaware's marine and wetland resources. Newark, Delaware: Center for Remote Sensing, University of Delaware.

Klemas, V., Roger, R. H., and Reed, L. E. 1976. Skylab/EREP application to ecological, geological, and oceanographic investigation of Delaware Bay. Newark, Delaware: College of Marine Studies, University of Delaware.

Krabill, W. B., and Swift, R. N. 1985. Airborne LIDAR experiments at the Savannah River Plant. Goddard Space Flight Center, National Aeronautics and Space Administration.

Mackey, H. E., Jr., Jensen, J. R., Hodgson, M. E. et al. 1987. Color infrared video mapping of upland and wetland communities. Proceedings of the eleventh biennial workshop on color aerial photography in the plant sciences; April 27 - May 1, 1987; Weslaco, Texas.

Mackey, H. E., and Jensen, J. R. 1988. Remote sensing of wetlands - applications overview. First special workshop on videography; May 19-20, 1988. Terre Haute, Indiana: Indiana State University.

Pathan, S. K., and Parihar, J. S. 1983. Comparison of the potential and Bhaskara-II TV and Landsat MSS data for mapping of different land features. Proceedings of the seventeenth international symposium on remote sensing of environment. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1147-1155.

Pelletier, R. E., and Dow, D. D. 1989. Monitoring the inundation extent of the Florida Everglades with AVHRR data in a geographic information system. Technical papers of the 1989 ASPRS/ACSM annual convention; April 2-7, 1989; Baltimore, Maryland. 266-275.

Pelletier, R. E., and Wu, S. T. 1989. A preliminary evaluation of the Airborne Electromagnetic Bathymetry System for characterization of coastal sediments and marsh soils. Technical papers of the 1989 ASPRS/ACSM annual convention; April 2-7, 1989; Baltimore, Maryland. 366-375.

Polcyn, F. C., Rebel, D. L., and Colwell, J. E. 1976. Analysis of hydrological features of portions of the Lake Ontario basin using Skylab and aircraft data. Ann Arbor, Michigan: Environmental Research Institute of Michigan.

Queen, L., Rundquist, D., Budde, P. et al. 1984. "TIMS" thermal-infrared analysis of selected landscape parameters: the Nebraska Sandhills. Proceedings of the international symposium on remote sensing of environment; Colorado Springs, Colorado. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 303-313.

Rosema, A., and Fiselier, J. L. 1990. Meteosat-based evapotranspiration and thermal inertia mapping for monitoring transgression in the Lake Chad Region and Niger Delta. *International Journal of Remote Sensing*. 11(5): 741-752.

Vande, C. J. R., Lathrop, R. G., and Lillesand, T. M. 1988. Significance of GIS and remote sensing technology in Great Lakes monitoring and resource management. *The Great Lakes: living with North America's inland waters -- proceedings of a symposium*. Bethesda, Maryland: American Water Resources Association. 155-161.

Wadsworth, J. R. Jr., Brook, G. A., and Carver, R. E. 1983. Surface expression of heavily mantled interstratal karst bordering Okefenokee Swamp, Georgia. Technical papers of the 1983 annual meeting of the American Society of Photogrammetry; Washington, DC. Falls Church, Virginia: ASPRS. 463-470.

Wood, B. L., and Beck, L. H. 1982. Geographic information system for Colusa County, California. Proceedings of the eighth international symposium on machine processing of remotely sensed data with special emphasis on crop inventory and monitoring; Purdue University. West Lafayette, Indiana: Purdue University. 374-401.

# Appendix C

## Alphabetical Listing

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Ackleson, S. G., and Klemas, V. 1987. Remote sensing of submerged aquatic vegetation in lower Chesapeake Bay: a comparison of Landsat MSS to TM imagery. *Remote Sensing of Environment*. 22: 235-248.

Ackleson, S. G., Klemas, V., McKim, H. L. et al. 1985. A comparison of SPOT Simulator data with Landsat MSS imagery for delineating water masses in Delaware Bay, Broadkill River, and adjacent wetlands. *Photogrammetric Engineering and Remote Sensing*. 51(8): 1123-1129.

Ackleson, S. G., and Klemas, V. 1983. Remote reconnaissance of submerged aquatic vegetation: a radiative transfer approach. US Army Corps of Engineers remote sensing symposium; November 7-9, 1983; Reston, Virginia. 197-211.

Adams, D. G., Gentle, G. C., and MacEwan, A. 1980. Documenting a 10-year change in land use and waterfowl habitat from digitized aerial photo-maps. *Proceedings of the fifth Canadian symposium on remote sensing*; August 1978; Victoria, British Columbia. Ottawa: Canadian Aeronautics and Space Institute. 415-426.

Akhavi, M. S., and Madjedi, M. 1975. Application of ERTS-1 imagery to water and marine resources in Iran. *Proceedings of the seminar on remote-sensing applications*; Bangkok, Thailand. Economic and Social Community, Asia and Pacific Mineral Resources Section. 92-100.

Amis, M. L., Lennington, R. K., Martin, M. V. et al. 1981. Evaluation of USDA large area crop estimation techniques. *Proceedings of the seventh international symposium on machine processing of remotely sensed data, with special emphasis on range, forest, and wetlands assessment*; Purdue University. West Lafayette, Indiana: Purdue University. 26-35.

Anderson, J. R., and Witmer, R. E. 1975. The National land use data program of the U.S. Geological Survey. *Proceedings of the NASA earth resources survey symposium*; June 9-12, 1975. Houston, Texas: National Aeronautics and Space Administration. 1609-1615.



Anderson, J. R. 1971. Land use classification schemes used in selected recent geographic applications of remote sensing. *Photogrammetric Engineering*. 37(4): 379-387.

Anderson, J. R., Hardy, E. E., Roach, J. T. et al. 1976. A land use and land cover classification system for use with remote sensor data.

Anderson, P. H. 1977. Delineation of deciduous wetland forests in north-eastern Connecticut. Storrs, Connecticut: University of Connecticut.

Anderson, P. H., Lefor, M. W., and Kennard, W. C. 1980. Forested wetlands in eastern Connecticut: their transition zones and delineation. *Water Resources Bulletin*. 248-255.

Anderson, R. R. 1972. Applications of high-altitude remote sensing to coastal zone ecological studies. *Operational remote sensing: an interactive seminar to evaluate current capabilities*; February 1-4, 1972; Houston, Texas. American Society of Photogrammetry. 191-195.

Anderson, R., Alsid, L., and Carter, V. 1975. Comparative utility of Landsat-1 and Skylab data for coastal wetland mapping and ecological studies. *Proceedings of the NASA earth resources survey symposium*; June 1975. Houston, Texas: Lyndon B. Johnson Space Center, National Aeronautics and Space Administration. 469-474.

Anderson, R. R., Carter, V., and McGinness, J. 1973. Applications of ERTS data to coastal wetland ecology with special reference to plant community mapping and typing and impact of man. *Third Earth Resources Technology Satellite-1 symposium*; December 10-14, 1973; Washington, DC. 1225-1242.

Anderson, R. R., Carter, V., and McGinness, J. 1973. Mapping Atlantic coastal marshlands, Maryland, Georgia, using ERTS-1 imagery. *Symposium on significant results obtained from the Earth Resources Technology Satellite-1*; March 5-9, 1973; New Carrollton, Maryland. 603-613.

Anderson, R. R., Carter, V., and McGinness, J. 1974. ERTS-1 investigation of wetlands ecology. Washington, DC: The American University.

Anderson, R. R., and Wobber, F. J. 1973. Wetlands mapping in New Jersey. *Photogrammetric Engineering*. 39(4): 353-358.

Andrews, D. S., Webb, D. H., and Bates, A. L. 1983. Use of aerial remote sensing in quantifying submersed aquatic macrophytes. *Symposium on ecological assessment of macrophyton: collection, use, and meaning of data*; January 15-16, 1983; Fort Lauderdale, Florida. Chattanooga, Tennessee: Tennessee Valley Authority. 92-99.

Anuskiewicz, T., and Meador, R. 1982. Resourceful decisions: Landsat in Michigan. Detroit, Michigan: Michigan Energy and Resource Research Association.

Application of remote sensing technology to land evaluation, planning utilization of land resources, and assessment of wildlife areas in eastern South Dakota: semiannual progress report, 1 July - 31 December 1975. Brookings, South Dakota: South Dakota State University, Remote Sensing Institute.

Applications of remote sensing to water resources. 1977. Gambrills, Maryland: ECOsystems International, Inc.

Arp, G. K. 1975. The rationale for attempting to define salt marsh mosquito-breeding areas in Galveston County by remote sensing the associated vegetation. Proceedings of the NASA Earth Resources Survey Symposium; June 9-12, 1975. Houston, Texas: National Aeronautics Space Administration. 289-299.

Baker, S. 1985. Land use and land cover classification of the North Carolina Barrier Islands: Level 3. Raleigh, North Carolina: North Carolina State University.

Baldrige, P. E., Goesling, P. H., Leone, F. et al. 1975. Ohio's statewide land use inventory: an operational approach for applying Landsat data to state, regional and local planning programs. Proceedings of the NASA earth resources survey symposium; June 9-12, 1975. Houston, Texas: National Aeronautics and Space Administration. 1541-1552.

Barker, G. R., Hoffer, R. M., Mroczynski, R. P. et al. 1981. Resource information needs in industry and the role of remote sensing. Seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University.

Barnard, T., MacFarlane, R. J., Neraasen, T. et al. 1981. Waterfowl habitat inventory of Alberta, Saskatchewan and Manitoba by remote sensing. Seventh Canadian symposium on remote sensing; September 8-11, 1981; Winnipeg, Manitoba. 150-158.

Barnes, C. M., and Cibula, W. C. 1979. Some implications of remote sensing technology in insect control programs including mosquitoes. Mosquito News. 271-282.

Bartlett, D. S. 1979. Spectral reflectance of tidal wetland plant canopies and implications for remote sensing. Doctoral dissertation. Newark, Delaware: University of Delaware.

Bartlett, D. S. 1982. Remote sensing of tidal wetlands: mapping and beyond. Oceans '82 conference record: industry, government, education, partners in progress; Washington, DC. New York: IEEE. 458-463.

Bartlett, D. S., Bartlett, K. B., Hartman, J. M. et al. 1989. Methane emissions from the Florida Everglades: patterns of variability in a regional wetland ecosystem. *Global Biogeochemical Cycles GBCYEP*. 363-374.

Bartlett, D. S., and Johnson, R. W. 1985. Remote sensing for ecological assessment of wetlands. Eighth biennial international estuarine research conference; July 28, 1985; Durham, New Hampshire. 7A.

Bartlett, D., Klemas, V., Philpot, W. et al. 1975. Applications of remote-sensing technology to environmental problems of Delaware and Delaware Bay. NASA earth resources survey symposium; 1975. Houston, Texas: National Aeronautics and Space Administration. 188-194.

Bartlett, D. S., and Klemas, V. 1979. Assessment of tidal wetland habitat and productivity. Proceedings of the thirteenth international symposium on remote sensing of the environment; April 23-27, 1979. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 693-701.

Bartlett, D. S., and Klemas, V. 1979. Evaluation of remote sensing techniques for surveying coastal wetlands. Newark, Delaware: University of Delaware.

Bartlett, D. S., and Klemas, V. 1980. Quantitative assessment of tidal wetlands using remote sensing. *Environmental Management*. 4(4): 337-345.

Bartlett, D. S., and Klemas, V. 1981. In situ spectral reflectance studies of tidal wetland grasses. *Photogrammetric Engineering and Remote Sensing*. 47(12): 1695-1703.

Bartlett, D. S., Klemas, V., Chrichton, O. W. et al. 1976. Low-cost, aerial photographic inventory of tidal wetlands. Newark, Delaware: University of Delaware, College of Marine Studies, Center for Remote Sensing.

Bartlett, D. S., Klemas, V., Hamilton, P. et al. 1979. Quantitative assessment of emergent *Spartina alterniflora* biomass in tidal wetlands using remote sensing. Proceedings of workshop on wetland and estuarine processes and water quality modeling; June 18-20, 1979; New Orleans, Louisiana. New York: Plenum Publishing.

Bartlett, D. S., Klemas, V., Rogers, R. H. et al. 1977. Variability of wetland reflectance and its effect on automatic categorization of satellite imagery. Technical papers of the 1977 annual ASP/ACSM annual meeting; February 27 - March 5, 1977; Washington, DC. Falls Church, Virginia: American Society of Photogrammetry.

Bartlett, D. S., Whiting, G. J., and Hartman, J. M. 1990. Use of vegetation indices to estimate intercepted solar radiation and net carbon dioxide exchange of a grass canopy. *Remote Sensing of Environment*. 30: 115-128.

Bates, A. L. 1989. Low level remote sensing of aquatic weeds. Proceedings of workshop on management of aquatic weeds and mosquitoes in impoundments; March 14-15, 1989; University of North Carolina at Charlotte. Raleigh, North Carolina: Water Resources Research Institute of the University of North Carolina. 133-136.

Baumann, R. H., and Adams, R. D. 1981. Remote sensing as a tool in determining probable impacts of flood control and navigation structures on wetland restoration in the lower Atchafalaya system. Sixth biennial international estuarine research conference; November 1-5, 1981; Gleneden Beach, Oregon. 267.

Bay, S. M., Chen, W. T., Freas, G. W., Jr. et al. 1977. National Conference of State Legislatures task force findings on feasible state uses of Landsat. Application of remote sensing to the Chesapeake Bay region proceedings; April 12, 1977; Berkeley Springs, West Virginia. Washington, DC: National Aeronautics and Space Administration.

Beccasio, A. D., Redfield, A. E., Jarman, J. W. et al. 1979. The role of remote sensing in practical geotechnical and environmental applications; a consultant's approach. US Army Corps of Engineers remote sensing symposium; Reston, Virginia. Fort Belvoir, Virginia: US Army Engineering Topographic Laboratories. 113-123.

Behie, G., and Cornillon, P. 1981. Remote sensing, a tool for managing the marine environment: eight case studies. Rhode Island: University of Rhode Island.

Benton, A. R., Jr., Blanchard, A. J., and Newton, R. W. 1983. Multifrequency radar interpretation techniques applied to the coastal zone. Technical papers of the 1983 ACSM-ASP fall convention; September 19-23, 1983; Salt Lake City, Utah. 157-166.

Benton, A. R., Jr., Clark, C. A., and Snell, W. W. 1980. Galveston Island - a changing environment. College Station, Texas: Texas A & M University.

Benton, A. R. Jr., Shell, W. W., and Clark, C. A. 1979. Monitoring man's impact in the coastal zone. Joint Proceedings of the ASP/ACSM Fall Technical Meeting; September 17-20, 1979; Sioux Falls, South Dakota. Falls Church, Virginia: American Congress on Surveying and Mapping. 237-250.

Best, R. G., Moore, D. G., and Brewster, W. G. 1976. Color-infrared aircraft photography to identify and classify wetlands in the Lake Dakota Plain of eastern South Dakota. Brookings, South Dakota: South Dakota State University.

Best, R. G., and Moore, D. G. 1977. Inventory of wetland habitat using remote sensing for the proposed Oahe irrigation unit in eastern South Dakota. Brookings, South Dakota: South Dakota State University.

- Best, R. G., and Moore, D. G. 1979. Landsat interpretation of prairie lakes and wetlands of eastern South Dakota. M. Deutsch, D. R. Wiesnet, and A. Rango, editors. Proceedings of the fifth annual William T. Pecora memorial symposium on remote sensing: satellite hydrology; June 10-15, 1979; Sioux Falls, South Dakota. Minneapolis, Minnesota: American Water Resources Association. 499-506.
- Bina, R. T., Jara, R., Lorenzo, E. et al. Detection and monitoring of water hyacinth (*Eichhornia crassipes*) infestation in Laguna de Bay through multi-spectral digital analysis of Landsat imageries. Proceedings of the twelfth international symposium on remote sensing of environment; April 20-26, 1978; Ann Arbor, Michigan. Ann Arbor, Michigan: Environmental Research Institute of Michigan; 1978: 1791-1798.
- Blanchard, A. J., and Benton, A. R., Jr. 1983. Determination of mobility and trafficability indicators with multifrequency imaging radar. Proceedings of the 1983 IGARSS Symposium: Remote Sensing -- Extending Man's Horizon; San Francisco, California. New York: IEEE. 1-6.
- Boemare, A., and Lenco, M. 1984. Study of Landscape Units, Ecozones and Biophysical Land Use in France's Drome Department Using Landsat Data. Proceedings of the eighteenth international symposium on remote sensing of environment; Paris, France. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 595-602.
- Bogucki, D. J., and Gruendling, G. K. 1978. Remote sensing to identify, assess and predict ecological impact on Lake Champlain wetlands. Plattsburgh, New York: State University of New York.
- Boissonneau, A. N., and Jeglum, J. K. 1975. A regional level of wetlands mapping for the northern Clay section of Ontario. Third Canadian symposium on remote sensing; September 22-24, 1975; Edmonton, Alberta. Ottawa: Canadian Aeronautics and Space Institute. 349-357.
- Bond, A. D., Atkinson, R. J., Lybanon, M. et al. 1977. Digital computer processing of Landsat data for North Alabama. Huntsville, Alabama: Computer Sciences Corporation.
- Boylan, M. 1978. Use of remote sensing for land use policy formulation: semiannual progress report: June - November, 1977. East Lansing, Michigan: Michigan State University.
- Boylan, M. 1980. Use of remote sensing for land use policy formulation: annual progress report: June, 1978 - May 1979. East Lansing, Michigan: Michigan State University.
- Bradfield, G. E., and Campbell, A. 1986. Vegetation-elevation correlation in two dyked marshes of northeastern Vancouver Island: a multivariate analysis. Canadian Journal of Botany. 2487-2494.

Brannon, D. P., and Irish, J. 1985. Satellite remote sensing and geographic information systems applied to biogeochemical flux estimates. 8. Biennial International Estuarine Research Conference Durham, NH (USA) 28 Jul 1985.

Brodie, G. A. 1989. Selection and evaluation of sites for constructed wastewater treatment wetlands. Constructed wetlands for wastewater treatment: municipal, industrial and agricultural. Chelsea, Michigan: Lewis Publishers. 307-317.

Browder, J. A., May, L. N., Rosenthal, A. et al. 1988. Utilizing remote sensing of Thematic Mapper data to improve our understanding of estuarine processes and their influence on the productivity of estuarine-dependent fisheries. Baton Rouge, Louisiana: Center for Wetland Resources, Louisiana State University.

Browder, J. A., May, L. N., Jr., Rosenthal, A. et al. 1989. Modeling future trends in wetland loss and brown shrimp production in Louisiana using Thematic Mapper imagery. Remote Sensing of Environment. 28: 45-59.

Brown, D., Gamble, J., and Prestin, S. 1973. ERTS-1 applications to Minnesota land use mapping. Proceedings of the symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics Space Administration. 991-997.

Brown, D., and Skaggs, R. 1974. Remote sensing applications to hydrology in Minnesota. A study of Minnesota forests and lakes using data from Earth Resources Technology Satellites: twenty-four month progress report. Minneapolis, Minnesota: University of Minnesota, Space Science Center. 81-196.

Brown, P. C., Scherz, J. P., and Windingstad, R. M. 1983. Remote sensing and avian cholera in Nebraska wetlands. Technical papers of the 1983 ACSM-ASP fall convention; Salt Lake City, Utah. Falls Church, Virginia: American Congress on Surveying & Mapping. 483-492.

Brown, W. W. 1978. Wetland mapping in New Jersey and New York. Photogrammetric Engineering and Remote Sensing. 44(3): 303-314.

Bussom, D. E., Samson, S. A., and Rundquist, D. C. 1981. The wetlands inventory of the northern Great Plains: an example of operational remote sensing and data management. B. F. Richason, Jr., editor. Proceedings of Pecora VII symposium -- remote sensing: an input to geographic information systems in the 1980's; October 18-21, 1981; Sioux Falls, South Dakota. 373-382.

Butera, M. K. 1977. A technique for the determination of Louisiana marsh salinity zones from vegetation mapped by multispectral scanner data: a comparison of satellite and aircraft data. National Aeronautics and Space Administration.

Butera, M. K. 1979. Demonstration of Wetland Vegetation Mapping in Florida From Computer-Processed Satellite and Aircraft Multispectral Scanner Data. National Aeronautics and Space Administration.

Butera, M. K. 1981. Computer-implemented remote sensing techniques for measuring coastal productivity and nutrient transport systems. Proceedings of the fifth annual William T. Pecora memorial symposium on remote sensing: satellite hydrology; June 10-15, 1979; Sioux Falls, South Dakota. 522-532.

Butera, M. K. 1983. Remote sensing of wetlands. Proceedings of IGARSS '82: the promise of remote sensing; June 1-4, 1982; Munich, West Germany. New York: IEEE. 383-392.

Butera, M. K. 1985. Remote sensing of coastal wetlands: where is research headed? Integration of remote sensed data in geographic information systems for processing of global resource information: proceedings of a working group meeting; May 29-31, 1985. Washington, DC: Centre for Earth Resource Management Applications. 1-11.

Butera, M. K., Browder, J. A., and Frick, A. L. 1984. A preliminary report on the assessment of wetland productive capacity from a remote-sensing-based model -- a NASA/NMFS joint research project. IEEE Transactions on Geoscience and Remote Sensing. GE-22(6): 502-511.

Butera, M. K., and Frick, A. 1974. An analysis of the effect of biological and physical parameters of a wetlands grass biome on the spectral modelling of phytomass and primary productivity. Proceedings of the IGARSS '84 Symposium; August 27-30, 1974; Strasbourg. 209-216.

Butera, M. K., and Seyfarth, B. R. 1981. A determination of marsh detrital export from Landsat MSS data - a function of transport distance and water body characterization. P. G. Buroff, and D. B. Morrison, editors. Seventh international symposium on machine processing of remotely sensed data with special emphasis on range, forest, and wetlands assessment; June 23-26, 1981; Purdue University. West Lafayette, Indiana: Laboratory for Applications of Remote Sensing, Purdue University. 240-253.

Carlson, M. P. 1977. Applications of remote sensing in resource management in Nebraska: annual report May 1, 1976 - April 30, 1977. Washington, DC: National Aeronautics and Space Administration.

Carsey, F., and Dixon, T. 1982. FIREX mission requirements document for renewable resources. Washington, DC: National Aeronautics and Space Administration.

Carter, V. (Undated). Applications of remotely sensed data to wetland studies. J. J. Rycroft, and A. C. Strickland, editors. COSPAR: Space Research. Washington, DC: US Geological Survey. 19-23.

- Carter, V. 1976. Computer mapping of coastal wetlands. Washington, DC: US Geological Survey.
- Carter, V. 1982. Applications of remote sensing to wetlands. Johannsen, C. J., Sanders, J. L. Remote sensing for resource management. Ankeny, Iowa: Soil Conservation Society of America. 284-300.
- Carter, V. 1981. Remote sensing for wetland mapping and inventory. *Water International*. 6: 177-185.
- Carter, V. 1977. Coastal wetlands: the present and future role of remote sensing. Proceedings of the eleventh international symposium on remote sensing of environment; April 25-29, 1977. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 301-323.
- Carter, V., Alsid, L., and Anderson, R. R. 1976. Man's impact upon wetlands. Washington, DC: US Geological Survey.
- Carter, V. P., and Anderson, R. R. 1972. Interpretation of wetlands imagery based on spectral reflectance characteristics of selected plant species. Proceedings of the 38th annual meeting of American Society of Photogrammetry; March 12-17, 1972; Washington, DC. Falls Church, Virginia: American Society of Photogrammetry. 580-595.
- Carter, V., and Anderson, R. R. 1976. Coastal wetland mapping in the central Atlantic region. Washington, DC: US Geological Survey.
- Carter, V., and Anderson, R. R. 1976. Tidal effects in coastal wetlands. Washington, DC: US Geological Survey.
- Carter, V., Anderson, R. R., and McGinness, J. W., Jr. 1976. Wetland classification and mapping along the South Atlantic Coast. Washington, DC: US Geological Survey.
- Carter, V., Garrett, M. K., Shima, L. et al. 1977. The Great Dismal Swamp: management of a hydrologic resource with the aid of remote sensing. *Water Resources Bulletin*. 13(1):1-12.
- Carter, V., Malone, D. L., and Burbank, J. H. 1979. Wetland classification and mapping in western Tennessee. *Photogrammetric Engineering and Remote Sensing*. 45(3): 273-284.
- Carter, V., McGinness, J. W., Jr., and Anderson, R. R. 1976. Wetland mapping in a large tidal brackish-water marsh in Chesapeake Bay. Washington, DC: US Geological Survey.



Carter, V., and Richardson, K. A. 1981. Landsat digital analysis: implications for wetland management. Proceedings of the seventh international symposium on machine processing of remotely sensed data with special emphasis on range, forest, and wetlands assessment; Purdue University. West Lafayette, Indiana: Purdue University. 220-229.

Carter, V., and Schubert, J. 1974. Coastal wetlands analysis from ERTS MSS digital data and field spectral measurements. Proceedings of the ninth international symposium on remote sensing of environment; April 15-19, 1974. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1241-1260.

Carter, V., and Smith, D. G. 1973. Utilization of remotely-sensed data in the management of inland wetlands. Anson, A. Management and utilization of remote sensing data: proceedings of a symposium on remote sensing; October 29 - November 1, 1973; Sioux Falls, South Dakota. Falls Church, Virginia: American Society of Photogrammetry. 144-158.

Carter, V., and Stewart, W. R. 1975. Seasonal color-infrared photographs for mapping inland wetlands on US Geological Survey 7.5-minute quadrangles. Proceedings of the fifth color aerial photography workshop; August 19-21, 1975; Sioux Falls, South Dakota. Falls Church, Virginia: American Society of Photogrammetry. 143-161.

Carter, V., Voss, A., Malone, D. et al. 1976. Wetland classification and mapping in western Tennessee. Proceedings of the 2nd annual William T. Pecora memorial symposium; October 25-29, 1976; Sioux Falls, South Dakota. Falls Church, Virginia: American Society of Photogrammetry. 213-234.

Cartmill, R. H. 1974. Evaluation of satellite remote sensing and automatic data techniques for characterization of wetlands and coastal marshlands. Bay St. Louis, Mississippi: Earth Resources Laboratory, National Space Technology Laboratories.

Chase, P. E., Reed, L., and Smith, V. E. 1973. Utilization of ERTS-1 data to monitor and classify eutrophication of inland lakes. Symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 1597-1604.

Chen, E., and Allen, L. H., Jr. 1987. Comparison of HCMM and GOES satellite temperatures and evaluation of surface statistics. Remote Sensing of Environment. 21: 341-353.

Chime, L. R., Gnauck, G. E., and Maragos, J. 1978. Hawaii wetlands mapping. Coastal Zone '78. 1223-1241.

Christensen, E. J. 1987. Digital change detection: a quantitative evaluation of image registration and wetland phenological characteristics using high resolution multispectral scanner data. Doctoral dissertation. Columbia, South Carolina: University of South Carolina.

Christensen, E. J., Jensen, J. R., Ramsey, E. W. et al. 1986. Wetland vegetation change detection using high resolution aircraft MSS data. Technical papers of the 1986 ASPRS-ACSM fall convention; Anchorage, Alaska. Falls Church, Virginia: American Society of Photogrammetry & Remote Sensing. 148-162.

Christensen, E. J., Jensen, J. R., Ramsey, E. W. et al. 1988. Aircraft MSS data registration and vegetation classification for wetland change detection. *International Journal of Remote Sensing*. 9(1): 23-38.

Cibula, W. G. 1972. Application of remotely sensed multispectral data to automated analysis of marshland vegetation. Bay St. Louis, Mississippi: Earth Resources Laboratory, Mississippi Test Facility.

Civco, D. L., Kennard, W. C., and Lefor, M. W. 1978. A technique for evaluating inland wetland photointerpretation: the cell analytical method (CAM). *Photogrammetric Engineering and Remote Sensing*. 44(8): 1045-1052.

Clapp, J. L., Kiefer, R. W., McCarthy, M. M. et al. 1973. The use of ERTS-1 data for the inventory of critical land resources for regional land use planning. Proceedings of the symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 1007-1014.

Clough, S. R. 1983. Facies development and evolution of fluvial channels in the Cumberland marshes of Saskatchewan, Canada. Master's thesis. Chicago, Illinois: University of Illinois at Chicago.

Coker, A. E., Higer, A. L., Rogers, R. H. et al. 1975. Automatic categorization of land-water cover types of the Green Swamp, Florida, using Skylab Multispectral Scanner (S-192) data. Proceedings of the NASA earth resources survey symposium; June 1975. Houston, Texas: Lyndon B. Johnson Space Center, National Aeronautics and Space Administration. 479-506.

Colwell, J. E., Gilmer, D. S., Work, E. A., Jr. et al. 1978. Use of Landsat data to assess waterfowl habitat quality. Ann Arbor, Michigan: Environmental Research Institute of Michigan.

Conrod, A. C. 1973. Digital data processing of ERTS-1 imagery of Delaware Bay. Symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 1641-1647.

Cooper, S., Buckelew, T. D., McKim, H. L. et al. 1977. Landsat follow-on investigation no. 22510: the use of the Landsat data collection system and imagery in reservoir management and operation. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration.

Cotnoir, L. J. 1974. Marsh soils of the Atlantic Coast. R. J. Reimold, W. H. Queen, editors. Ecology of halophytes. New York: Academic Press, Inc. 441-447.

Cotter, P. J., Johnston, J. B., Quammen, M. L. et al. 1985. Development of a computerized wetlands mapping data base for use in Section 404 jurisdictional determinations in San Francisco Bay. Coastal Zone '85: proceedings of the fourth symposium on coastal and ocean management Baltimore, Maryland. New York: ASCE. 1360-1368.

Coulbourn, W. C. 1972. Some applications of photography, thermal imagery and X band side looking radar to the coastal zone. Tools for coastal zone management, proceedings of the conference; February 14-15, 1972; Washington, DC. 59-65.

Cowardin, L. M., and Myers, V. I. 1974. Remote sensing for identification and classification of wetland vegetation. Journal of Wildlife Management. 308-314.

Cowardin, L. M., Carter, V., Golet, F. C. et al. 1979. Classification of wetlands and deepwater habitats of the United States. Washington, DC: US Department of the Interior, Fish and Wildlife Service.

Crapper, P. F. 1983. Review of current Australian work on the application of Landsat to land transformation processes. Study of land transformation processes from space and ground observations: proceedings of symposium 10 of the COSPAR 24th plenary meeting; Ottawa. New York: Pergamon Press. 161-165.

Cummins, K. W., and Mahan, D. C. The relationship between watershed use and stream water quality: report for December 1, 1974 - December 31, 1975. East Lansing, Michigan: Michigan State University, Institute of Water Research.

Curtis, L. F. 1986. Remote sensing for environmental management of national parks with special reference to Exmoor. Journal of the British Interplanetary Society. 552-558.

Dallam, W. C., Rango, A., and Shima, L. 1975. Hydrologic land use classification of the Patuxent River Watershed using remotely sensed data. Proceedings of the NASA Earth Resources Survey Symposium; June 9-12, 1975. Houston, Texas: National Aeronautics and Space Administration. 2351-2364.

Dawbin, K. W., Beach, D. W., Hoffer, R. M. et al. 1981. Crop monitoring in Australia using digital analysis of Landsat data. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 76-79.

Day, R. H., Holz, R. K., and Day, J. W., Jr. 1990. An inventory of wetland impoundments in the coastal zone of Louisiana, USA: historical trends. *Environmental Management*. 14(2): 229-240.

de Jesus Parada, N., de Morrison Valeriano, D. 1982. Application of remote sensing data to land use and land cover assessment in the Tubarao River coastal plain, Santa Catarina, Brazil. Sao Jose dos Campos, Brazil: Instituto de Pesquisas Espaciais.

Delleur, J. W., and Lee, M. T. 1973. A rainfall-runoff model based on the watershed stream network. Proceedings of the symposium on the design of water resources projects with inadequate data; June 1973; Madrid, Spain. West Lafayette, Indiana: Purdue University.

Deutsch, M. 1972. Operational and experimental remote sensing in hydrology. Proceedings of CENTO seminar on the application of remote sensors in the determination of natural resources; November 10-13, 1971; Ankara, Turkey. Washington, DC: US Geological Survey. 95-105.

Dobson, J. E., and Bright, E. A. 1991. CoastWatch -- detecting change in coastal wetlands. *Geo Info Systems*. 1(1): 36-40.

Donoghue, D., and Shennan, I. 1988. The application of remote sensing to environmental archaeology. *Geoarchaeology*. 3: 275-285.

Dottavio, C. L., and Dottavio, F. D. 1984. Potential benefits of new satellite sensors to wetland mapping. *Photogrammetric Engineering and Remote Sensing*. 20(5): 599-606.

Downs, S. W. Jr, Sharma, G. C., and Bagwell, C. (Undated). A procedure used for a ground truth study of a land use map of North Alabama generated from Landsat data. Huntsville, Alabama: National Aeronautics and Space Administration.

Drake, B., and Patton, K. H. 1980. Land use/cover mapping from Seasat-A radar of the greater part of the Delmarva Peninsula, USA Proceedings of the fourteenth international symposium on remote sensing of environment; April 23-30, 1980; San Jose, Costa Rica. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1565-1575.

Drieman, J. A., Leckie, D. G., and Ahern, F. J. 1989. Multitemporal C-SAR for forest typing in eastern Ontario. Proceedings of IGARSS '89 - twelfth Canadian Symposium on Remote Sensing; Vancouver, British Columbia. Piscataway, New Jersey: IEEE. 1376-1378.

Driscoll, R. S. 1981. Remote sensing: its role in meeting information needs. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 2-6.

Dudding, M. L. 1981. Monitoring land conversions from forest/wetland to agriculture. Second eastern regional remote sensing applications conference; Danvers, Massachusetts. 139-146.

Dufourmont, H., Longdon, N., and Melita, O. 1983. Interpretability of wetland on Seasat-1 imagery in the polderland of Flanders: a structural approach. Proceedings of the EARSeL/ESA symposium on remote sensing applications for environmental studies; Brussels. Noordwijk: Laboratory for Regional Geography and Landscape Studies, State University of Ghent. 129-132.

Egan, W., and Hair, M. E. 1971. Automated delineation of wetlands in photographic remote sensing. Proceedings of the seventh international symposium on remote sensing of environment; May 17-21, 1971. Ann Arbor, Michigan: The University of Michigan. 2231-2251.

Ehlers, M. 1982. Increase in correlation accuracy of remote sensing imagery by digital filtering. Photogrammetric Engineering and Remote Sensing. 415-420.

Engman, E. T. 1982. Remote sensing application in watershed modeling. Applied Modeling in Catchment Hydrology (Proceedings of the International Symposium on Rainfall-Runoff Modeling); Mississippi State University, Mississippi. Littleton, Colorado: Water Resources Publications. 473-494.

Enslin, W. R., and Sullivan, M. C. 1974. Use of color infrared photography for wetlands assessment. Conference on earth resource observations and infrared analysis systems: remote sensing of earth resources; March 25-27, 1974. Tullahoma, Tennessee: University of Tennessee. 697-719.

Erickson, J. D., and Thomson, F. J. 1974. Recent advancements in information extraction methodology and hardware for earth resources survey systems. Conference record of the IEEE International Conference on Communications; June 17-19, 1974; Minneapolis, Minnesota. New York: IEEE. Paper 32B.

Ernst, C. L., and Hoffer, R. M. 1979. Using Landsat MSS data with soils information to identify wetland habitats. M. Deutsch, D. R. Wiesnet, and A. Rango, A., editors. Proceedings of the fifth annual William T. Pecora memorial symposium on remote sensing: satellite hydrology; June 10-15, 1979; Sioux Falls, South Dakota. Minneapolis, Minnesota: American Water Resources Association. 474-478.

Ernst-Dottavio, C. L., Hoffer, R. M., and Mroczynski, R. P. 1981. Spectral characteristics of wetland habitats. Photogrammetric Engineering and Remote Sensing. 47(2): 223-227.

Estrin, S. A. 1986. The delineation and classification of inland wetlands utilizing FCIR stereo imagery. Symposium on remote sensing for resources development and environmental management; August 1986; Enschede. Rotterdam: Balkema. 713-716.

Everitti, J. H., Richardson, A. J., Gerbermann, A. H. et al. 1979. Landsat-2 data for inventorying rangelands in South Texas. Proceedings of the fifth annual symposium on machine processing of remotely sensed data; June 27-29, 1979; Purdue University. New York: IEEE. 132-141.

Fellows, J. D., and Hoffer, R. M. 1981. A georeferenced information system for real time hydrologic modeling. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University.

Finley, R. J. 1976. Interpretation of unenhanced Landsat imagery for wetland and land use delineation in the Texas coastal zone. Transactions of the Gulf Coast Association Geological Society. 279-297.

Finley, R. J., McCulloch, S., and Harwood, P. 1979. Landsat classification of coastal wetlands in Texas. M. Deutsch, D. R. Wiesnet, and A. Rango, editors. Proceedings of the fifth annual William T. Pecora Memorial symposium on remote sensing; June 10-15, 1979; Sioux Falls, South Dakota. Minneapolis, Minnesota: American Water Resources Association. 453-462.

Flores, L. M., Reeves, C. A., Hixon, S. B. et al. 1973. Unsupervised classification and areal measurement of land and water coastal features on the Texas coast. Symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 1675-1681.

Ford, J. P. 1981. Effects of resolution versus speckle in spaceborne radar image interpretation; a geologic-user based analysis. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 132-138.

Frank, T. D. 1981. Comprehensive geo-data base control with an electronic coordinate digitizer. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 497-504.

Franklin, S. E., and Peddle, D. R. 1990. Classification of SPOT HRV imagery and texture features. International Journal of Remote Sensing. 11(3): 551-556.

Freyer, W. E., Monahan, T. J., Bowden, D. C. et al. 1983. Status and trends of wetlands and deepwater habitat in the conterminous United States, 1950s to 1970s. Fort Collins, Colorado: Department of Forest and Wood Sciences, Colorado State University.

Frazier, B. E., Kiefer, R. W., and Krauskopf, T. M. 1975. Statewide wet land mapping using Landsat imagery. F. Shaahrokhi, editor. Remote sensing of earth resources: technical papers selected from the fourth annual remote sensing of earth resources conference; March 24-26, 1975. Tullahoma, Tennessee: The University of Tennessee Space Institute. 267-280.

Fukue, K., Shimoda, H., and Sakata, T. 1981. Complete lineament extraction with the aid of shadow-free Landsat image. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 94-102.

Gagnon, H. 1982. The false argillaceous outflow of Toma Lake. *Geoscope*. 13: 28-39.

Gallagher, J. L. 1974. Remote sensing as a tool for studying the ecology of halophytes. R. J. Reimold, and W. H. Queen, editors. Ecology of halophytes. New York: Academic Press, Inc. 511-523.

Gallagher, J. L., Reimold R. J., and Thompson, D. E. 1972. A comparison of four remote sensing media for assessing salt marsh primary productivity. Proceedings of the eighth international symposium on remote sensing of environment; October 2-6, 1972. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1287-1295.

Gallo, K. P., and Daughtry, C. S. T. 1981. Spectrally derived inputs to crop yield models. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 52-65.

Gammon, P. 1977. Vegetative communities of the Great Dismal Swamp: identification and mapping with seasonal color infrared photographs. Proceedings of the sixth biennial workshop on aerial color photography in the plant sciences and related fields; August 9-11, 1977; Colorado State University. Suffolk, Virginia: US Geological Survey, Water Resource Division. 111-131.

Gammon, P. T., Carter, V., Shima, L. J. et al. 1978. Wetland vegetation studies. US Geological Survey professional paper.

Gammon, P. T., and Carter, V. 1979. Vegetation mapping with seasonal color infrared photographs. *Photogrammetric Engineering and Remote Sensing*. 45(1): 87-97.

Gammon, P. T., Malone, D., Brooks, P. D. et al. 1977. Three approaches to the classification and mapping of inland wetlands. Proceedings of the eleventh international symposium on remote sensing of environment; April 25-29, 1977. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1545-1555.

Gammon, P. T., Rohde, W. G., and Carter, V. 1979. Accuracy evaluation of Landsat digital classification of vegetation in the Great Dismal Swamp. M. Deutsch, D. R. Wiesnet, and A. Rango, editors. Proceedings of the fifth annual William T. Pecora memorial symposium on remote sensing; June 10-15, 1979; Sioux Falls, South Dakota. Minneapolis, Minnesota: American Water Resources Association. 463-473.

Garrett, M. K., and Carter, V. 1977. Contribution of remote sensing to habitat evaluation and management in a highly altered ecosystem. Transactions of the forty-second North American wildlife and natural resources conference. Washington, DC: Wildlife Management Institute. 56-65.

Gatto, L. W. 1978. Estuarine processes and intertidal habitats in Grays Harbor, Washington: a demonstration of remote sensing techniques. Hanover, New Hampshire: Cold Regions Research and Engineering Laboratory, US Army Corps of Engineers.

Gazzier, C. A., Frederking, R. L., and Minshew, V. H. 1980. Mapping coastal wetlands of Mississippi with remote sensing. F. Shahrokhi, editor. Proceedings of the seventh annual remote sensing of earth resources conference; Tullahoma, Tennessee. 187-198.

Gervin, J. C., Mulligan, P. J., Lu, Y. C. et al. 1983. Hydrological planning studies using Landsat-4 Thematic Mapper. Proceedings of the seventeenth international symposium on remote sensing of environment. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1403-1412.

Gervin, J., and Shih, S. F. 1979. Improvements in lake volume predictions using Landsat data. M. Deutsch, D. R. Wiesnet, and A. Rango, editors. Proceedings of the fifth annual William T. Pecora memorial symposium on remote sensing; June 10-15, 1979; Sioux Falls, South Dakota. Minneapolis, Minnesota: American Water Resources Association. 479-484.

Gervin, J. C., and Shih, S. F. 1979. A technique for improved assessment of flow resistance characteristics of natural wetlands using Landsat data. M. Deutsch, D. R. Wiesnet, and A. Rango, editors. Proceedings of the fifth annual William T. Pecora memorial symposium on remote sensing; June 10-15, 1979; Sioux Falls, South Dakota. Minneapolis, Minnesota: American Water Resources Association. 507-511.



Gervin, J. C., and Shih, S. F. 1979. Wetland flow resistance determination using Landsat data. Joint Proceedings of the ASP-ACSM Fall Technical Meeting; September 17-20, 1979; Sioux Falls, South Dakota. Falls Church, Virginia: American Congress on Surveying and Mapping. 105-116.

Gessler, P., McSweeney, K., Kiefer, R. et al. 1989. Analysis of contemporary and historical soil/vegetation/landuse patterns in southwest Wisconsin utilizing GIS and remote sensing technologies. Technical paper of the 1989 ASPRS/ACSM annual convention; Baltimore, Maryland. Falls Church, Virginia: ASPRS/ACSM. 85-92.

Giddings, L., and Choudhury, B. J. 1989. Observation of hydrological features with Nimbus-7 37 GHz data, applied to South America. International Journal of Remote Sensing. 1673-1686.

Giglierano, J. D. 1990. Geographic information system: Johnson County study. Iowa Geology. 15: 10-11.

Gilbert, M. C., Freel, M. W., and Bieber, A. 1980. Remote sensing and field evaluation of wetlands in the Sandhills of Nebraska. Omaha, Nebraska: US Army Corps of Engineers, Omaha District.

Gilmer, D. S. 1977. Application of Landsat system for improving methodology for inventory and classification of wetlands. Jamestown, North Dakota: US Fish and Wildlife Service, Northern Prairie Wildlife Research Center.

Gilmer, D. S., Work, E. A., Jr., Colwell, J. E. et al. 1980. Enumeration of prairie wetlands with Landsat and aircraft data. Photogrammetric Engineering and Remote Sensing. 46(5): 631-634.

Godfrey, K. A. 1979. What future for remote sensing from space? Civil engineering - ASCE. 61-66.

Golterman, H. L., Clymo, R. S., Best, E. P. H. et al. 1980. Methods of exploration and analysis of the environment of aquatic vegetation. Handbook of Vegetation Science Series Vol. 15/1: Vegetation of inland waters. Boston, Massachusetts: Kluwer Academic Publishers. 31-62.

Gordon, H. H., Penney, M. E., and Byrne, R. J. 1974. Remote sensing applications in marine science programs at VIMS. Gloucester Point, Virginia: Virginia Institute of Marine Science.

Goswami, R. K. 1982. A study of wetlands using geochemical, remote sensing, and multivariate analytical techniques. Doctoral dissertation. Knoxville, Tennessee: University of Tennessee.

Graff, J. M. 1976. Use of Landsat data to relate water depth to observed area of inundation in coastal marshes. Master's thesis. Baton Rouge, Louisiana: Louisiana State University.

Gross, M. F., Hardisky, M. A., and Klemas, V. 1988. Effects of solar angle on reflectance from wetland vegetation. *Remote Sensing of Environment*. 26: 195-212.

Gross, M. F., Hardisky, M. A., Klemas, V. et al. 1987. Quantification of biomass of the marsh grass *Spartina alterniflora* Loisel using Landsat Thematic Mapper imagery. *Photogrammetric Engineering and Remote Sensing*. 53(11): 1577-1583.

Gross, M. F., Hardisky, M. A., Doolittle, J. A. et al. 1990. Relationships among depth to frozen soil, soil wetness, and vegetation type and biomass in tundra near Bethel, Alaska. *Arctic and Alpine Research*. 275-282.

Gross, M. F., Klemas, V., and Hardisky, M. A. 1990. Long-term remote monitoring of salt marsh biomass. *Proceedings, SPIE's 1990 technical symposium on optical engineering and photonics in aerospace sensing*; April 16-20, 1990; Orlando, Florida. *Earth Observing Systems*.

Gross, M. F., Klemas, V., and Levasseur, J. E. 1988. Remote sensing of biomass of salt marsh vegetation in France. *International Journal of Remote Sensing*. 9(3): 397-408

Gross, M. F., Hardisky, M. A., and Klemas, V. 1990. Inter-annual spatial variability in the response of *Spartina alterniflora* biomass to amount of precipitation. *Journal of Coastal Research*. 6(4): 949-960.

Gross, M. F., and Klemas, V. 1986. The use of Airborne Imaging Spectrometer (AIS) data to differentiate marsh vegetation. *Remote Sensing of Environment*. 19: 97-103.

Guindon, B., Goodenough, D. G., Teillet, P. M. et al. 1981. The role of digital terrain models in the remote sensing of forests. *Proceedings of the seventh international symposium on machine processing of remotely sensed data*; Purdue University. West Lafayette, Indiana: Purdue University.

Guth, J. E. 1972. The National Ocean Survey coastal boundary mapping. *Tools for coastal zone management*; February 14-15, 1972; Washington, DC. 67-69.

Haas, R. H., and Waltz, F. A. 1983. Evaluation of Thematic Mapper data for natural resource assessment. *Proceedings of the Pecora VIII symposium: satellite land remote sensing advancements for the eighties*; Sioux Falls, South Dakota. Sioux Falls, South Dakota: Augustana College. 122-133.

Haddad, K. D., and Harris, B. A. 1985. Assessment and trends of Florida's marine fisheries habitat: an integration of aerial photography and Thematic Mapper imagery. S. K. Mengel, and D. B. Morrison, editors. Eleventh international symposium on machine processing of remotely sensed data with special emphasis on quantifying global process: models, sensor systems, and analytical methods; June 25-27, 1985; Purdue University. West Lafayette, Indiana: Purdue University. 130-138.

Halasi-Kun, G. J., editor. 1979. Status of tidal surveying and monuments in New Jersey. Proceedings of University seminar on pollution and water resources. 1-5.

Hampson, P. S. 1984. Wetlands in Florida. Tallahassee, Florida: Florida Bureau of Geology.

Handley, L. R., Quammen, M. L., and Johnston, J. B. 1987. Wetlands analysis for lower San Francisco Bay. Coastal Zone '87: proceedings of the fifth symposium on coastal and ocean management; Seattle, WA. New York: ASCE. 1154.

Hansen, J. H. 1983. Automated classification of wetlands. Technical papers of the 49th annual meeting of the American Society of Photogrammetry; March 13-18, 1983. Washington, DC: American Society of Photogrammetry. 177-181.

Hardin, D. I., and Imhoff, M. L. 1981. Monitoring wetlands change using Landsat data (Delaware, USA). Proceedings of the second eastern regional remote sensing applications conference; March 1981; Danvers, Massachusetts. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics Space Administration. 259-267.

Hardin, D. L. 1985. Remote sensing of wetlands for fish and wildlife habitat management in Delaware -- a comparison of data sources. Integration of remote sensed data in geographic information systems for processing of global resource information: proceedings of a working group meeting; May 29-31, 1985; Washington, DC. 31-38.

Harding, R. A. 1977. DNR: a source of environmental data. R. D. Andrews, III, R. L. Carr, F. Gibson, et al., editors. Proceedings of the symposium on terrestrial and aquatic ecological studies of the Northwest; March 26-27, 1976; Eastern Washington State University. Cheney, Washington: EWSC Press. 67-72.

Hardisky, M. A., Gross, M. F., and Klemas, V. 1986. Remote sensing of coastal wetlands. Bioscience. 36(7): 453-460.

Hardisky, M. A., and Klemas, V. 1985. Remote sensing of coastal wetlands biomass using Thematic Mapper wavebands. Evaluation of spatial, radiometric and spectral Thematic Mapper performance for coastal studies. Newark, Delaware: University of Delaware, College of Marine Studies.

Hardisky, M. A., Klemas, V., and Barker, J. L. 1986. Remote sensing of coastal wetlands biomass using Thematic Mapper wavebands. Symposium on Landsat-4 science characterization early results; February, 1983. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 151-270.

Hardisky, M. A., and Klemas, V. 1985. Remote sensing of wetland biomass and productivity. Eighth biennial international estuarine research conference; July 28, 1985; Durham, New Hampshire. 7A.

Hardisky, M. A., Smart, R. M., and Klemas, V. 1983. Seasonal spectral characteristics and aboveground biomass of the tidal marsh plant, *Spartina alterniflora*. Photogrammetric Engineering and Remote Sensing. 49(1): 85-92.

Hardisky, M. A., Daiber, F. C., Roman, C. T. et al. 1984. Remote sensing of biomass and annual net aerial primary productivity of a salt marsh. Remote Sensing of Environment. 16: 91-106.

Hardisky, M., and Klemas, V. 1984. Aboveground biomass estimation in a tidal brackish marsh using simulated Thematic Mapper spectral data. Proceedings of the Landsat-4 early results symposium and the Landsat science characterization workshop; December, 1983; Greenbelt, Md. Washington, DC: National Aeronautics and Space Administration. 121-127.

Hardisky, M. A., and Klemas, V. 1983. Tidal wetlands natural and human-made changes from 1973 to 1979 in Delaware: mapping techniques and results. Environmental Management. 7(4): 339-344.

Haugen, R. K., McKim, H. L., and Marlar, T. L. 1976. Remote sensing of land use and water quality relationships - Wisconsin Shore, Lake Michigan. Available from the National Technical Information Service, Springfield, VA 22161 as AD-A030 746, Price codes: A04 in paper copy, A01 in microfiche. Report 76-30, August 1976. 47 p, 22 fig, 11 tab, 23 ref. NASA SR/T 160-75-89-05-10. Hanover, New Hampshire: US Army Engineers Cold Regions Research and Engineering Laboratory.

Hawkins, H. 1990. Eye in the sky: satellite imagery aids Florida DOT. Public Works. 60-61.

Hayes, R. O., Maxwell, E. L., Mitchell, C. J. et al. 1985. Detection, identification, and classification of mosquito larval habitats using remote sensing scanners in Earth-orbiting satellites. Bulletin of WHO. 63361-374.

Hecht, L. G., Jr. 1991. Monitoring the Chesapeake Bay in real time. *GIS World*. 4(9): 88-93.

Hegy, F., and Quenet, R. V. 1981. Applications of remote sensing techniques to update the forest inventory data base in British Columbia. *Proceedings of the seventh international symposium on machine processing of remotely sensed data*; Purdue University. West Lafayette, Indiana: Purdue University. 7.

Hewitt, M. J., III. 1990. Synoptic inventory of riparian ecosystems: the utility of Landsat Thematic Mapper data. *Forest Ecology and Management*. 33/34: 605-620.

Hick, P. 1979. Remote sensing techniques applied to an estuarine environment problem in Western Australia. *Australian Journal of Instrumentation and Control*. 4-6.

Higer, A. L., Coker, A. E., Schmidt, N. F. et al. 1975. An analysis and comparison of Landsat-1, Skylab (S-192) and aircraft data for delineation of land-water cover types of the Green Swamp, Florida. Miami, Florida: US Geological Survey, Water Resources Division.

Hill, J. M., and Turnipseed, P. 1989. Spatial analysis of coastal land loss by soil type. *Journal of Coastal Research*. 5.

Hixson, M. M. 1981. Techniques for evaluation of area estimates. *Proceedings of the seventh international symposium on machine processing of remotely sensed data*; Purdue University. West Lafayette, Indiana: Purdue University. 84-90.

Hodgson, M. E., Jensen, J. R., Mackey, H. E., Jr. et al. 1987. Remote sensing of wetland habitat: a wood stork example. *Photogrammetric Engineering and Remote Sensing*. 53(8): 1075-1080.

Hodgson, M. E., Jensen, J. R., Mackey, H. E., Jr. et al. 1988. Monitoring wood stork foraging habitat using remote sensing and geographic information systems. *Photogrammetric Engineering and Remote Sensing*. 54(11): 1601-1607.

Hofstetter, R. H., and Sonenshein, R. S. 1990. Vegetative changes in a wetlands in the vicinity of a well field, Dade County, Florida. Tallahassee, Florida: South Florida Water Management District.

Holman, R. E., III. 1975. The use of color infrared aerial photography in determining salt marsh vegetation and delimiting man-made structures of Lynnhaven Bay, Virginia. Norfolk, Virginia: Old Dominion University.

Honey, F. R., Hick, P. T., and Blatchford, D. R. 1978. Multi-level inventory and monitoring of wetlands on the Swan Coastal Plain, Western Australia. Proceedings of the twelfth international symposium on remote sensing of environment; April 20-26, 1978. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 2027-2044.

Howard, A. D., Remson, I., Dickinson, W. R. et al. 1978. Geology in environmental planning. New York: McGraw-Hill Book Co.

Howey, T. W., and Blackmon, J. H. 1987. Use of a geographic information system as a tool for making land use management decisions for coastal wetlands in a state regulatory program. Coastal Zone '87: proceedings of the fifth symposium on coastal and ocean management; Seattle, Washington. New York: ASCE. 399-413.

Howland, W. G. 1977. Vegetation mapping from color aerial photography of Lake Champlain wetlands. F. Shahrokhi, editor. Remote sensing of earth resources; March 29-31, 1977. Tullahoma, Tennessee: The University of Tennessee. 9-23.

Howland, W. G. 1980. Multispectral aerial photography for wetland vegetation mapping. Photogrammetric Engineering and Remote Sensing. 46(1): 87-99.

Howman, A. 1988. The extrapolation of spectral signatures illustrates Landsats' potential to detect wetlands. Proceedings of IGARSS '88 symposium; September 13-16, 1988; Edinburgh, Scotland. 537-539.

Hutton, S. M., Dincer, T. 1979. Using Landsat imagery to study the Okavango Swamp, Botswana. M. Deutsch, D. R. Wiesnet, and A. Rango, editors. Proceedings of the fifth annual William T. Pecora memorial symposium on remote sensing; June 10-15, 1979; Sioux Falls, South Dakota. Minneapolis, Minnesota: American Water Resources Association. 512-519.

Ibrahim, S., and Hashim, I. 1990. Classification of mangrove forest by using 1:40,000-scale aerial photographs. Forest Ecology and Management. 33/34: 583-592.

Imhoff, M. L., and Gesch, D. B. 1990. Derivation of a sub-canopy digital terrain model of a flooded forest using synthetic aperture radar. Photogrammetric Engineering and Remote Sensing. 1155-1162.

Jackson, T. J., Ragan, R. M., and McCuen, R. H. 1975. Land use classification for hydrologic models using interactive machine classification of Landsat data. Proceedings of the NASA Earth Resources Survey Symposium; June 9-12, 1975. Houston, Texas: National Aeronautics and Space Administration. 2365-2378.

Jarman, J. W. 1973. The Earth Resources Program of the Corps of Engineers. Symposium on significant results obtained from Earth Resource Technology Satellite-1; May 1973. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 127-141.

Jenkins, D. W., and Williamson, F. S. L. 1972. Collection and analysis of remotely sensed data from the Rhode River estuary watershed. Washington, DC: Smithsonian Institution.

Jensen, J. R. 1986. Wetlands proximity mapping of 86 waste sites on the Savannah River Plant. Aiken, South Carolina: Savannah River Laboratory.

Jensen, J. R. 1987. The use of pattern recognition in biophysical remote sensing. Proceedings of the sixtieth annual meeting of the South Carolina Academy of Science; Columbia, South Carolina. 76.

Jensen, J. R., Christensen, E. J., and Mackey, H. E., Jr. 1986. Vegetation change detection in the Savannah River Swamp. Proceedings of the freshwater wetlands and wildlife symposium; March 24-27, 1986; Charleston, South Carolina.

Jensen, J. R., Christensen, E. J., and Sharitz, R. 1984. Nontidal wetland mapping in South Carolina using airborne multispectral scanner data. Remote Sensing of Environment. 16: 1-12.

Jensen, J. R., Coulter, M., Mackey, H. E. et al. 1985. Mapping of wood stork foraging habitat with satellite data. Proceedings of a combined meeting of Colonial Waterbird Group and Pacific Seabird Group; December 4, 1985; San Francisco, California. Aiken, South Carolina: Savannah River Ecology Laboratory.

Jensen, J. R., Hale, A., and Mackey, H. E. 1986. Vegetational stress detection in a Southeastern swamp floodplain using remote sensing and in-situ spectral measurements. Proceedings of freshwater wetlands and wildlife symposium; March 24, 1986; Charleston, South Carolina. Washington, DC: Department of Energy.

Jensen, J. R., Hodgson, M. E., Coulter, M. et al. 1986. Feasibility study of wood stork foraging habitat mapping using Landsat multispectral data. Proceedings of freshwater wetlands and wildlife symposium; March 24, 1986; Charleston, South Carolina. Washington, DC: Department of Energy.

Jensen, J. R., Hodgson, M. E., Christensen, E. J. et al. 1984. Multispectral remote sensing of inland wetlands in South Carolina: selecting the appropriate sensor. Tenth international symposium on machine processing of remotely sensed data with special emphasis on Thematic Mapper data and geographic information systems; June 12-14, 1984; Purdue University. West Lafayette, Indiana: Purdue University. 144-152.

- Jensen, J. R., Hodgson, M. E., and Mackey, H. E. 1985. Remote sensing forest biomass for loblolly pine using high resolution airborne sensor data. Proceedings of forest land applications symposium; June 25, 1985; Seattle, Washington. Washington, DC: Department of Energy.
- Jensen, J. R., Hodgson, M. E., Mackey, H. E., Jr. et al. 1987. Correlation between aircraft MSS and LIDAR remotely sensed data on a forested wetland. *Geocarto International*. 4: 39-54.
- Jensen, J. R., Hodgson, M. E., Mackey, H. E., Jr. et al. 1987. Correlation between aircraft MSS and LIDAR remotely sensed data on a forested wetland in South Carolina. Technical papers of the 1987 fall convention of the American Society of Photogrammetry and Remote Sensing; October 4-9, 1987; Reno, Nevada.
- Jensen, J. R., Hodgson, M. E., Christensen, E. et al. 1986. Remote sensing inland wetlands: a multispectral approach. *Photogrammetric Engineering and Remote Sensing*. 52(1): 87-100.
- Jensen, J. R., Narumalani, S., Weatherbee, O. et al. 1991. Remote sensing offers an alternative for mapping wetlands. *Geo Info Systems*. 1(9): 46-53.
- Jensen, J. R., Ramsey, E. W., Mackey, H. E., Jr. et al. 1986. Inland wetland change detection using aircraft MSS data. Aiken, South Carolina: Savannah River Plant, US Department of Energy.
- Jensen, J. R., Ramsey, E. W., Mackey, H. E., Jr. et al. 1987. Inland wetland change detection using aircraft MSS data. *Photogrammetric Engineering and Remote Sensing*. 53(5): 521-529.
- Johnson, H. D. 1981. State (California) resource management and role of remote sensing. Proceedings of the western regional remote sensing conference; Monterey, California. Moffett Field, California: NASA Ames Research Center. 20-25.
- Johnson, R. W., and Bartlett, D. S. 1985. Remote sensing in large scale biogeochemical research. Proceedings of the 1985 IGARSS: remote sensing instrumentation -- technology for science and applications; Amherst, MA. New York: IEEE.
- Johnston, I. L., and Howarth, P. J. 1981. Enhancement of Landsat data for Hudson Bay lowlands vegetation. Proceedings of the fifteenth international symposium on remote sensing of environment; May 11-15, 1981. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 623-633.



- Johnston, J. B., and Longley, W. L. 1980. Remote sensing and its role in coastal resource studies. Proceedings of the fourteenth international symposium on remote sensing of environment; April 23-30, 1980; San Jose, Costa Rica. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1789-1797.
- Jones, N. L., and Shahrokhi, F. 1977. Application of Landsat data to wetland study and land use classification in West Tennessee. Proceedings of the eleventh international symposium on remote sensing of environment; April 25-29, 1977. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 609-613.
- Karteris, M. A. 1990. Utility of digital Thematic Mapper data for natural resources classification. International Journal of Remote Sensing. 1589-1598.
- Keller, M. 1983. The application of remote sensing to wetland delineation for the planning function and regulatory functions in the Memphis District. US Army Corps of Engineers remote sensing symposium; November 7-9, 1983; Reston, Virginia. 437-438.
- Kelley, J. 1981. Estuarine source of inner shelf suspended sediment. Proceedings of the 94th annual meeting of the Geological Society of America; Cincinnati, Ohio. 484.
- Kennard, W. C., and Lefor, M. W. 1977. Evaluation of freshwater wetlands definitions. Storrs, Connecticut: Institute of Water Resources, University of Connecticut.
- Kerhin, R. T. 1974. Linear distribution of the high marsh vegetation communities of the Lower Eastern Shore and its geological significance. Research and investigation of geology, mineral and water resources of Maryland. Baltimore, Maryland: Maryland Geological Survey, Johns Hopkins University. 1-19.
- Kessler, R. 1987. Applications of imaging radar for classification of forest vegetation. Photogrammetria. 41: 221-232.
- Kiefer, R. W. 1978. Multidisciplinary research on the application of remote sensing to water resources problems: progress report August 1977 - July 1978. Washington, DC: National Aeronautics and Space Administration.
- Kirby, R. E. 1976. Mapping wetlands on beaver flowages with 35mm photography. Canadian Field-Naturalist. 423-431.
- Klemas, V. 1976. Remote sensing of coastal wetland vegetation and estuarine water properties. Proceedings of the third international estuarine research conference; Galveston, Texas. New York: Academic Press. 381-403.

Klemas, V. 1978. Application of Landsat to the management of Delaware's marine and wetland resources. Newark, Delaware: Center for Remote Sensing, University of Delaware.

Klemas, V. 1979. Remote sensing of coastal processes and resources. Proceedings of the US Army Corps of Engineers remote sensing symposium; Reston, Virginia. Fort Belvoir, Virginia: US Army Engineering Topographic Laboratories. 147-165.

Klemas, V. 1986. Remote sensing of estuaries: an overview. Oceans 86 - conference record; September 23-25, 1986; Piscataway, New Jersey. New York, New York: IEEE. 302-309.

Klemas, V. 1986. Remote sensing investigations of wetland biomass and productivity for global biosystems research. Newark, Delaware: College of Marine Sciences, University of Delaware.

Klemas, V. 1987. Remote sensing of estuaries and tide-dominated coastal processes. Proceedings of the 1987 national conference on hydraulic engineering; Williamsburg, Virginia. New York: ASCE. 1-12.

Klemas, V., Ackleson, S. G., and Hardisky, M. A. 1985. Evaluation of spatial, radiometric and spectral Thematic Mapper performance for coastal studies. Newark, Delaware: College of Marine Sciences, University of Delaware.

Klemas, V., Bartlett, D., Philpot, W. et al. 1977. Application of LANDSAT-2 to the management of Delaware's marine and wetland resources: progress report January - March 1977.

Klemas, V., Bartlett, D., Roger, R. et al. 1973. Inventories of Delaware's coastal vegetation and land-use utilizing digital processing of ERTS-1 imagery. Third Earth Resources Technology Satellite-1 symposium; December 10-14, 1973. Washington, DC: Goddard Space Flight Center, National Aeronautics and Space Administration. 1243-1255.

Klemas, V., Bartlett, D. S., and Murillo, M. 1980. Remote sensing of coastal environment and resources. Proceedings of the fourteenth international symposium on remote sensing; April 23-20, 1980; San Jose, Costa Rica. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 543-562.

Klemas, V., Bartlett, D. S., and Philpot, W. D. 1980. Remote sensing as a technique for synoptic inventories of fisheries related resources. Proceedings of the fifth biennial international estuarine research conference Jekyll Island, Georgia, October 7-12 1979. 359-375.

Klemas, V., Bartlett, D. 1977. Variability of wetland reflectance and its effect on automatic categorization of satellite imagery. Goddard Space Flight Center, National Aeronautics and Space Administration.

- Klemas, V., Daiber, F. C., Bartlett, D. S. et al. 1973. Coastal vegetation of Delaware. Sea Grant Program.
- Klemas, V., Daiber, F., and Bartlett, D. 1973. Identification of marsh vegetation and coastal land use in ERTS-1 imagery. Symposium on significant results obtained from the Earth Resources Technology Satellite-1. National Aeronautics and Space Administration. 615-627.
- Klemas, V., Lyzenga, D., Matteoda, A. et al. 1990. New airborne sensors for monitoring estuaries and coastal waters in conjunction with satellites. Proceedings of Oceans '90; September 24-26, 1990; Washington, DC IEEE. 422-427.
- Klemas, V., Roger, R. H., and Reed, L. E. 1976. Skylab/EREP application to ecological, geological, and oceanographic investigation of Delaware Bay. Newark, Delaware: College of Marine Studies, University of Delaware.
- Klemas, V., and Sma, R. 1973. Applicability of ERTS-1 imagery to the study of suspended sediment and aquatic fronts. Symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 1275-1290.
- Kolipinski, M. C., and Higer, A. L. 1968. Application of aerial photography and remote sensing to hydrobiological research in South Florida. US Geological Survey Open File Report.
- Korpjaakko, E. A. 1975. Preliminary muskeg (peatland) inventory of the Province of New Brunswick. Canadian Journal of Earth Sciences. 24-27.
- Krabill, W. B., and Swift, R. N. 1985. Airborne LIDAR experiments at the Savannah River Plant. Goddard Space Flight Center, National Aeronautics and Space Administration.
- Krieger, K. A. 1989. Lake Erie estuarine systems: issues, resources, status, and management. NOAA Estuary-of-the-Month Seminar Series No. 14.
- Kristof, S. J., and Mroczynski, R. P. 1981. Mapping hydric soils of Arctic and subarctic wetlands using Landsat MSS data. Proceedings of the 1981 fall meeting of the Indiana Academy of Science; Crawfordsville, Indiana. 549.
- Lacy, R., Somers, R., and Lipscomb, D. 1989. South Carolina's approach for evaluating and updating the National Wetlands Inventory. O. T. Magoon, H. Converse, D. Miner, et al., editors. Coastal Zone '89: proceedings of the sixth symposium on coastal and ocean management; July 11-14, 1989; Charleston, South Carolina. New York: American Society of Civil Engineers. 380-381.

Lambert, E., Lavoie, A., Dubois, J. M. et al. 1984. Remote sensing the near-shore vegetation of Quebec coasts. Proceedings of the eighteenth international symposium on remote sensing of environment; October 1-5, 1984; Paris, France. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 535-541.

Landsat's role in State Coastal Management Programs. 1979. Washington, DC: National Aeronautics and Space Administration.

Lenco, M., and Dedieu, J. P. 1986. Present state, changes and quality of Sologne and Brenne, two French large wetlands, studied with the MSS and TM Landsat data. ESA/EARSeL symposium on Europe from space; June 25-28, 1986; Lyngby, Denmark. 259-261.

Leu, D. J. 1982. A procedure for merging remote sensing and field sampling methods to assess existing and historic environmental conditions of coastal wetlands. Doctoral dissertation. Newark, Delaware: University of Delaware.

Lewis, A. J., Kim, S. T., Wilson, R. T. et al. 1975. Applied remote sensing of the lower Atchafalaya basin floodway. Proceedings of the tenth international symposium on remote sensing of environment; October 6-10, 1975. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1319-1328.

Liang, T., McNair, A. J., and Philipson, W. R. 1978. Cornell University Remote Sensing Program semiannual status report: December 1, 1977 - May 31, 1978. Washington, DC: National Aeronautics and Space Administration.

Lillesand, T. M., and Meisner, D. E. 1982. Application of scanning microdensitometer data in selected plant-science case studies. Journal of Applied Photographic Engineering. 40-45.

Lind, A. O., Henson, E. B., and Pelton, J. 1973. Environmental Study of ERTS-1 imagery: Lake Champlain and Vermont. Symposium on significant results obtained from the Earth Resources Technology Satellite-1. National Aeronautics and Space Administration. 643-650.

Lind, A. O., and Howland, W. G. 1975. Vegetation mapping in Lake Champlain wetlands. Burlington, Vermont: Vermont Water Resources Research Center.

Linde, A. F., and Janisch, T. P. 1978. Cover mapping wetland areas with the aid of 35mm low altitude color photography. Wetlands: ecology, values, and impacts: proceedings of the Waubesa conference on wetlands; June 2-5, 1977; Madison, Wisconsin. 306-323.

- Linden, D. S., and Szajgin, J. 1981. A double cluster sampling approach to Landsat classification accuracy assessment. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 83.
- Lindgren, D. T. 1985. Land use planning and remote sensing. Remote sensing of earth resources & environment series 2. Martinus Nijhoff.
- Link, L. E., and Long, K. S. 1978. Large-scale demonstration of aquatic plant mapping by remote sensing. Proceedings of the twelfth international symposium on remote sensing of environment; April 20-26, 1978. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 907-915.
- Link, L. E., and Long, K. S. 1979. Aquatic plant mapping by remote sensing. US Army Corps of Engineers remote sensing symposium; October 29-31, 1979; Reston, Virginia. 345-351.
- Linthurst, R. A., and Reimold, R. J. 1973. Existing aerial photographic resources of coastal Georgia and a brief listing of interpretative aids: technical report. Savannah, Georgia: Georgia Marine Science Center.
- Long, K. S., and Link, L. E., Jr. 1977. Remote sensing of aquatic plants. Proceedings of the eleventh international symposium on remote sensing of environment; April 25-29, 1977. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 817-826.
- Lorenzo, E. N., de Jesus, B. R., Jr., and Jara, R. S. 1979. Assessment of mangrove forest deterioration in Zamboanga Peninsula, Philippines using Landsat MSS data. Proceedings of the thirteenth international symposium on remote sensing of environment; April 23-27, 1979. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1737-1745.
- Lowe, D. S. 1976. Remote sensing of wetlands, marshes, and shorelines in Michigan including St. John's Marsh: semiannual status report, June 1 - December 1, 1976. Ann Arbor, Michigan: Environmental Research Institute of Michigan.
- Lund, H. G. 1990. Inventory technology: "ebb tides," "flash floods," and "whirlpools." Forest Ecology and Management. 559-579.
- Lunetta, R. S., Bong, S. S., and Stoll, J. K. 1985. Using remotely sensed data to map vegetative cover for habitat evaluation in the Saginaw River Basin. US Army Corps of Engineers fifth remote sensing symposium; October 28-30, 1985. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 150-159.

Lyon, J. G. 1979. Remote sensing analysis of coastal wetland characteristics: the St. Clair Flats, Michigan. Proceedings of the thirteenth international symposium on remote sensing of environment; April 23-27, 1979. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1117-1129.

Lyon, J. G. 1980. Data sources for analyses of Great Lakes wetlands. Technical papers of the American Society of Photogrammetry ACSM-ASP convention; March 9-14, 1980; St. Louis, Missouri. Falls Church, Virginia: American Society of Photogrammetry. 516-528.

Lyon, J. G. 1981. Inventory of coastal wetlands. Proceedings of the sixth biennial international estuarine research conference; November 1-5, 1981; Gleneden Beach, Oregon. 268.

Lyon, J. G. 1989. Remote sensing of suspended sediments and wetlands in western Lake Erie. NOAA estuary of the month seminar series: Lake Erie estuarine systems -- issues, resources, status and management. Washington, DC: National Oceanic and Atmospheric Administration. 125-147.

Lyon, J. G., Gauthier, R., Greene, R. et al. 1985. Assessment of historical wetland loss and wetland regeneration from aerial photos, Landsat MSS and TM data. US Army Corps of Engineers fifth remote sensing symposium; October 28-30, 1985. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 108-115.

Lyon, J. G., and McCarthy, J. F. 1981. Seasat imagery for detection of coastal wetlands. Proceedings of the fifteenth international symposium on remote sensing of environment; May 11-15, 1981. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1475-1485.

MacDonald, H. C., Waite, W. P., and Demarcke, J. A. S. 1981. Seasat radar geomorphic applications in coastal and wetland environments, southeastern US Technical papers of the 1981 fall technical meeting of the American Society of Photogrammetry; San Francisco, California. 181-190.

Mace, A. C., Jr. 1973. Evaluation of peatland water table elevation and water quality indicators. Applications of aerial photography and ERTS data to agricultural, forest and water resources management. St. Paul, Minnesota: Institute of Agriculture Remote Sensing Laboratory, University of Minnesota. 23-34.

Mackey, H. E., Jr. 1989. Macrophyte mapping in ten lakes of South Carolina with multispectral SPOT HRV data. Special session of the summer American Society of Limnology and Oceanography, Proceedings; June 18-22, 1989; Fairbanks, Alaska.

Mackey, H. E., Jr., Jensen, J. R., Hodgson, M. E. et al. 1987. Color infrared video mapping of upland and wetland communities. Proceedings of the eleventh biennial workshop on color aerial photography in the plant sciences; April 27 - May 1, 1987; Weslaco, Texas.

Mackey, H. E., and Jensen, J. R. 1988. Remote sensing of wetlands - applications overview. First special workshop on videography; May 19-20, 1988 Terre Haute, Indiana. Indiana State University.

Mackey, H. E., Jr., Jensen, J. R. 1989. Wetlands mapping with multispectral SPOT HRV data. Technical papers of the 1989 ASPRS/ACSM annual convention; April 2-7, 1989; Baltimore, Maryland. 356-365.

Mairs, R. L., Wobber, F. J., Garofalo, D. et al. 1973. Application of ERTS-1 data to the protection and management of New Jersey's coastal environment. Proceedings of a symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 629-634.

Marlar, T. L., Palazzo, A. J., and Randall, A. D. 1981. Report on selected wetland mapping programs and their application to the regulatory efforts of the New England Division, Corps of Engineers. US Army Corps of Engineers: proceedings of the remote sensing symposium; November 30 - December 2, 1981; Nashville, Tennessee.

Marmelstein, A. D. 1978. Remote sensing applications to wildlife management in the US Fish and wildlife service. Proceedings of the twelfth international symposium on remote sensing of environment. Ann Arbor, Michigan: Environmental Research Institute of Michigan.

Matraw, H. C., Jr., and Elder, J. F. 1980. Nutrient yield of the Apalachicola River Flood Plain, Florida: river-quality assessment plan. Washington, DC: US Geological Survey, Water Resources Investigations.

McCulloch, S. 1984. Development of the Texas Natural Resources Inventory and Monitoring System (TNRIMS). Technical Papers of the 1984 ACSM-ASP Fall Convention; San Antonio, Texas. Falls Church, Virginia: ASP/ACSM. 751-761.

McElfish, J. M., and Adler, K. J. 1990. Swampbuster implementation: missed opportunities for wetland protection. Journal of Soil and Water Conservation. 45(3): 383-385.

McEwen, R. B., Kosco, W. J., and Carter, V. 1976. Coastal wetland mapping. Photogrammetric Engineering and Remote Sensing. 42(2): 221-232.

- Mead, R. A. 1981. Case studies on classification accuracy assessment. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University.
- Mead, R. A., and Gammon, P. T. 1981. Mapping wetlands using orthophotomaps and 35-mm aerial photographs. Photogrammetric Engineering and Remote Sensing. 47(5): 649-652.
- Mellor, J. C. 1983. Use of seasonal windows for radar and other image acquisition and Arctic lake region management. Proceedings of permafrost: fourth international conference; Fairbanks, Alaska. 832-837.
- Mercanti, E. P. 1974. Widening ERTS applications. Astronautic & Aeronautics. 28-41.
- Mergerson, J. W. 1981. Crop area estimation using ground-gathered and sampled Landsat data. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 45-51.
- Merry, C. J., Green, G., Devendorf, R. et al. 1984. Wildlife habitat mapping in Lac Qui Parle, Minnesota. SPOT simulation applications handbook: proceedings of the 1984 SPOT symposium; May 20-23, 1984; Scottsdale, Arizona. 205-208.
- Metivier, E. D., and O'Malley, J. R. 1975. Coastal surveillance: a Georgia example. Symposium on the utilization of remote sensing data in the Southeast US; January 29-30, 1975; Athens, Georgia. Falls Church, Virginia: ASP. 1-12.
- Meyer-Arendt, K. J., and Wicker, K. M. 1981. Classification and mapping habitats within the Mississippi River deltaic plain region. B. F. Richason, editor. Proceedings of the Pecora VII symposium; October 18-21, 1981; Sioux Falls, South Dakota. 163-174.
- Middleton, E. M., Lu, Y. C., Witt, R. G. et al. 1985. Relative accuracy assessment of Landsat-4 MSS and TM data for Level I land cover inventory. Landsat-4 science characterization early results. Washington, DC: National Aeronautics and Space Administration. 431-446.
- Miller, W. F., Carter, B. D., Solomon, J. L. et al. 1980. Application of remote sensing to state and regional problems: semiannual progress report, May 1 - October 31, 1980. Washington, DC: National Aeronautics and Space Administration.
- Mintzer, O. W., and Spragg, D. 1978. Mini-format remote sensing for civil engineering. American Society of Civil Engineers, Transportation Engineering Journal. 847-858.



Mollard, J. D. 1982. Using remote sensing in water resource studies in western Canada: selected case histories. Johannsen, C. J., Sanders, J. L. Remote sensing for resource management. Ankeny, Iowa: Soil Conservation Society of America. 264-283.

Monakhov, M. A. 1973. Extrapolation of indicator schemes within salt marshes. Landscape indicators -- new techniques in geology and geography. New York: Plenum Press.

Montanari, J. A., and Townsend, J. E. 1977. Status of the National Wetlands Inventory. Transactions of the 42nd North American wildlife national resource conference; March 5-9, 1977; Atlanta, Georgia. 66-72.

Monte, J. A. 1981. Use of near color infrared photography to assess the impact of the oil and natural gas industry on Louisiana's wetlands. Proceedings of the 1981 IGARSS symposium; June 8-10, 1981; Washington, DC New York: IEEE. 768-777.

Moor, J. H. 1981. Remote sensing in Alaska: opportunities and policy implications. Proceedings of the western regional remote sensing conference; Monterey, California. Moffett Field, California: NASA Ames Research Center. 43-48.

Moore, G. K., Baltzer, R. A., and Carter, V. 1978. Surface-water applications of Landsat data. US Geological Survey Professional Paper.

Morrow, J. W., Carter, V., and MacEwan, A. 1980. Wetland classification on the Alaskan north slope. Proceedings of the fifth Canadian symposium on remote sensing; August, 1978; Victoria, British Columbia. Ottawa: Canadian Aeronautics and Space Institute. 94-103.

Mouganis-Mark, P., Ferrall, C., Gaddis, L. et al. 1984. Spaceborne and airborne radar, infrared and thermal studies of coastal processes at the Mississippi Delta, Louisiana. Proceedings of the tenth international symposium on machine processing of remotely sensing data with special emphasis on Thematic Mapper data and geographic information systems; June 12-14, 1984; Purdue University. West Lafayette, Indiana: Purdue University. 253-259.

Mower, R. D., and Heinrich, M. L. 1977. Computer processed (Landsat) land cover map of North Dakota. Technical papers selected from the annual conference on remote sensing of earth resources; March 29-31, 1977. Tullahoma, Tennessee: University of Tennessee. 295-307.

Mugler, J. P., Jr., Godfrey, J. P., Hickman, G. D. et al. 1977. Role of remote sensing in Bay measurements. Proceedings of the application of remote sensing to the Chesapeake Bay region; April 12, 1977; Berkeley Springs, West Virginia. Washington, DC: National Aeronautics and Space Administration.

Mulligan, P. J., Gervin, J. C., and Lu, Y. C. 1983. Comparison of MSS and TM data for landcover classification in the Chesapeake Bay area: a preliminary report. J. L. Barker, editor. Proceedings of the Landsat-4 science characterization early results symposium; February 22-24, 1983. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 415-419.

Mulligan, P. J., Lu, Y. C., and Gervin, J. C. 1983. Wetlands investigations using Thematic Mapper data. US Army Corps of Engineers remote sensing symposium; November 7-9, 1983; Reston, Virginia. 399-404.

Munday, J. C., and Gordon, H. H. 1978. Application of remote sensing to estuarine management: annual report no. 6. Washington, DC: National Aeronautics and Space Administration.

Myers, V. I., Cox, T. L., and Best, R. G. 1976. Application of remote sensing technology to land evaluation, planning utilization of land resources, and assessment of wetland habitat in eastern South Dakota, Parts 1 and 2: annual progress report July 1, 1975 - June 30, 1976. Washington, DC: National Aeronautics and Space Administration.

Navarro, A. A., and Wellar, B. S. 1983. Underwater mapping techniques using remote sensing for salvaging sunken vessels. Proceedings of the sixth international symposium on automated cartography; October, 1983. Ottawa: Canadian National Committee for Auto-Carto Six. 549-558.

Nayak, S., Gupta, M. C., Chauhan, H. B. et al. 1986. The application of Landsat data for coastal zone monitoring: a case study on the west coast of India. Proceedings of the regional seminar on the application of remote sensing techniques to coastal zone management and environmental monitoring; November 18-26, 1986; Dhaka, Bangladesh. 320-327.

Nayak, S. R., and Sahai, B. 1984. Coastal morphology: a case study of the Gulf of Khambhat (Cambay). *International Journal of Remote Sensing*. 6(3-4):559-567.

Neraasen, T. G., Macaulay, A. J., and Mroczynski, R. P. 1981. Pintails and pixels: a potential application of Landsat technology to waterfowl habitat inventory. P. G. Burroff, and D. B. Morrison, editors. Seventh international symposium machine processing of remotely sensing data with special emphasis on range, forest and wetlands assessment; June 23-26, 1981; Purdue University. West Lafayette, Indiana: Purdue University. 214-218.

Norton, D. J., Organ, J., and Litwin, T. 1985. Covertypes classification and mapping on Long Island's national wildlife refuges. Technical papers of the 1985 ASPRS-ACSM annual convention; Washington, DC. Falls Church, Virginia: ASPRS. 585-594.

- Norton, D. J., and Prince, J. 1985. Use of remote sensing for wetlands assessment in hazardous waste sites. Proceedings of the nineteenth international symposium on remote sensing of environment; October 21-25, 1985. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 781-790.
- Norton, D. J., and Slonecker, E. T. 1990. The ecological geography of EMAP. *Geo Info Systems*. 1(0): 33-43.
- Novikov, S. M. 1988. Up-to-date method to study marsh-ridden areas in West Siberia. Proceedings of the international symposium on the hydrology of wetlands in temperate and cold regions; June 6-8, 1988; Joensuu, Finland. Helsinki, Finland: The Academy of Finland. 14-17.
- Nyc, R. 1980. In search of wetlands. *Water Spectrum*. Spring: 17-25.
- Nyc, R., and Brooks, P. 1979. National Wetlands Inventory project: inventorying the Nation's wetlands with remote sensing. US Army Corps of Engineers: proceedings of the remote sensing symposium; October 29-31, 1979; Reston, Virginia. 333-343.
- O'Toole, M. M., and Finkbeiner, M. A. 1986. Recent applications of aerial photography in the field of hazardous waste site management. Technical papers of the 1986 ASPRS-ACSM fall convention; Anchorage, Alaska. Falls Church, Virginia: ASPRS. 356-366.
- Odenyo, V. O., and Pettry, D. E. 1977. Land-Use mapping by machine processing of Landsat-1 data. *Photogrammetric Engineering and Remote Sensing*. 43(4): 515-523.
- Olson, C. E., Jr. 1981. A case for standardized test sites. Seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 20-23.
- Ormsby, J. P., Gervin, J. C., Nickeson, J. E. et al. 1985. Wetland physical and biotic studies using multispectral data. US Army Corps of Engineers fifth remote sensing symposium; October 28-30, 1985. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 429-438.
- Oslin, A. J. 1988. GIS to integrate remote sensing and CADD for engineering and environmental studies. *GIS/LIS '88: Proceedings of the third international conference*; San Antonio, Texas. ASPRS/ACSM. 407-416.
- Pala, S. 1982. Practical automated mapping system. *Satellite Remote Sensing for Developing Countries: Proceedings of an EARSeL-ESA Symposium* (European Association of Remote Sensing Laboratories-European Space Agency); Igls, Austria. Paris, France: European Space Agency. 217-218.

Pala, S. 1984. Operational peatland inventory in Ontario based on Landsat MSS analysis. Proceedings of the eighteenth international symposium on remote sensing of environment; October 1-5, 1984; Paris, France. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1962-1972.

Pala, S. 1984. TM vs. MSS in operational peatland inventory. Proceedings of the eighteenth international symposium on remote sensing of the environment; Paris, France. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1961-1972.

Pala, S., and Boissonneau, A. 1982. Wetland classification maps for the Hudson Bay lowland. Proceedings of the James and Hudson Bay symposium; Guelph, Ontario, Canada. *Le Naturaliste Canadien*. 653-659.

Parada, N. D. J., and Valeriano, D. D. M. 1982. Application of remote sensing data to land use and land cover assessment in the Tubarao River coastal plain, Santa Catarina, Brazil. Presented at the international symposium on utilization of coastal ecosystems: planning, pollution and productivity; November 22-27, 1982; Rio Grande, Brazil.

Paris, J. F. 1974. Coastal zone mapping from ERTS-1 data using computer-aided techniques. Proceedings of the second Canadian symposium on remote sensing. Canadian Society of Remote Sensing. 515-528.

Park, R. A., Trehan, M. S., Mausel, P. W. et al. 1989. Coastal wetlands in the twenty-first century: profound alterations due to rising sea level. *Wetlands: concerns and successes*. 71-80.

Parks, W. L., Sewell, J. I., Hilty, J. W. et al. 1974. Utilizing ERTS imagery to detect plant diseases and nutrient deficiencies, soil types and soil moisture levels. Knoxville, Tennessee: University of Tennessee.

Parrott, W. R., Jr., Reynolds, P. E., Hain, D. C. et al. 1981. Computer mapping of seasonal groundwater fluctuations for two differing southern New Jersey swamp forests. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 653-667.

Pathan, S. K., and Parihar, J. S. 1983. Comparison of the potential and Bhaskara-II TV and Landsat MSS data for mapping of different land features. Proceedings of the seventeenth international symposium on remote sensing of environment. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1147-1155.

Patterson, S. G. 1986. Mangrove community boundary interpretation and detection of areal changes on Marco Island, Florida: application of digital image processing and remote sensing techniques. Washington, DC: US Department of the Interior.

Pearlstine, L., and Kitchens, W. 1985. Community succession modeling for resource management. Coastal Zone '85: proceedings of the fourth symposium on coastal and ocean management; Baltimore, Maryland. New York: ASCE. 1369-1381.

Peddle, D. R., and Franklin, S. E. 1989. High resolution satellite image texture for moderate relief terrain analysis. Proceedings of IGARSS '89 - twelfth Canadian symposium on remote sensing; Vancouver, British Columbia. 653-655.

Pelletier, R. E., and Dow, D. D. 1989. Monitoring the inundation extent of the Florida Everglades with AVHRR data in a geographic information system. Technical papers of the 1989 ASPRS/ACSM annual convention; April 2-7, 1989; Baltimore, Maryland. 266-275.

Pelletier, R. E., and Wu, S. T. 1989. A preliminary evaluation of the Airborne Electromagnetic Bathymetry System for characterization of coastal sediments and marsh soils. Technical papers of the 1989 ASPRS/ACSM annual convention; April 2-7, 1989; Baltimore, Maryland. 366-375.

Penney, M. E., and Gordon, H. H. 1989. Remote sensing of wetlands In Virginia. Proceedings of the tenth international symposium on remote sensing of environment; October 6-10, 1975. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 495-503.

Peters, D. D. 1989. Status and trends of wetlands in the California Central Valley. Wetlands: Concerns and Successes. September: 33-44.

Pickering, S. M., and Jones, R. C. 1974. Geologic evaluation and applications of ERTS-1 imagery over Georgia. Proceedings of the third Earth Resources Technology Satellite symposium. Washington, DC: National Aeronautics and Space Administration. 41-49.

Place, J. L. 1982. Test of airborne radar for mapping two types of land cover: forested wetland and perennial snow or ice. Reston, Virginia: US Department of Interior, US Geological Survey.

Pluhowski, E. J. 1989. Application of remotely sensed land-use information to improve estimates of streamflow characteristics. US Geological Survey Open File Report.

Podolsky, R., and Conkling, P. 1991. Satellite search aids wetlands visualization. GIS World. 4(9): 80-85.

Polcyn, F. C., Rebel, D. L., and Colwell, J. E. 1976. Analysis of hydrological features of portions of the Lake Ontario basin using Skylab and aircraft data. Ann Arbor, Michigan: Environmental Research Institute of Michigan.

Polis, D. F., Salter, M., and Lind, H. 1974. Hydrographic verification of wetland delineation by remote sensing. *Photogrammetric Engineering*. 40(2): 75-78.

Pollara, V. J., Vanderbilt, V. C., and Daughtry, C. S. T. 1981. A technique to determine which crop development stages can be estimated from spectral data. *Proceedings of the seventh international symposium on machine processing of remotely sensed data*; Purdue University. West Lafayette, Indiana: Purdue University. 66-75.

Practical applications of space systems, supporting paper 7: environmental quality. 1975. Washington, DC: National Academy of Sciences.

Pratt, T. R., Clewell, A. F., and Cleckley, W. O. 1989. Principal vegetation communities of the Choctawhatchee River flood plain, Northwest Florida. *Wetlands: Concerns and Successes*. September: 91-99.

Quattrochi, D. A. 1983. An initial analysis of Landsat-4 Thematic Mapper data for the discrimination of agricultural, forested wetland, and urban land covers. J. Barker, editor. *Proceedings of the Landsat-4 early results symposium and the Landsat science characterization workshop*; February 22-24, 1983 and December 6, 1983; Greenbelt, Maryland. Greenbelt, Maryland: Goddard Space Flight Center and National Aeronautics and Space Administration. 111-112.

Queen, L., Rundquist, D., Budde, P. et al. 1984. "TIMS" thermal-infrared analysis of selected landscape parameters: the Nebraska Sandhills. *Proceedings of the international symposium on remote sensing of environment*; Colorado Springs, Colorado. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 303-313.

Quinn, A. O. 1972. Photogrammetry aids solution of environment problems. *Journal of the Surveying and Mapping Division, American Society of Civil Engineers*. 87-92.

Raitala, J., Jantunen, H., and Lampinen, J. 1985. Application of Landsat satellite data for mapping aquatic areas in north-eastern Finland. *Aquatic Botany*. 21: 285-294.

Ramsey, E. W., III, and Jensen, J. R. 1988. The derivation and verification of surface reflectances using airborne MSS data and a radiative transfer model. *Technical papers of the 1988 fall technical meeting of the American Society of Photogrammetry and Remote Sensing*; September 11-16, 1988; Virginia Beach, Virginia.

Rao, K. R., Krishnan, R., Chakraborty, A. K. et al. 1981. Water quality models with different functions of Exotech radiometer bands. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 262-268.

Rapley, C. G., Guzkowska, M. A. J., Cudlip, W. et al. 1987. Altimeter studies of inland water and land in preparation for ERTS-1. Proceedings of the IGARSS '87 symposium; Ann Arbor, Michigan. New York: IEEE. 241.

Rapley, C. G., Guzkowska, M. A. J., Cudlip, W. et al. 1987. Exploratory study of inland water and land altimetry using Seasat data: final report. Washington, DC: National Aeronautics and Space Administration.

Redfield, A. E., and Thom, K. S. 1980. Use of CIR and airborne multispectral scanner techniques for wetland soils mapping of highway corridors. Proceedings of the sixth annual symposium on machine processing of remotely sensed data and soil infrared systems; June 3-6, 1980; Purdue University. New York: IEEE. 205-213.

Reeves, C. C., Jr. 1973. Dynamics of playa lakes in the Texas high plains. Proceedings of the symposium on significant results obtained from the Earth Resources Technology Satellite-1. Washington, DC: National Aeronautics and Space Administration. 809-817.

Rehder, J., and Quattrochi, D. 1978. The verification of Landsat data in the geographical analysis of wetlands in West Tennessee. Knoxville, Tennessee: University of Tennessee.

Reimold, R. J., and Linthurst, R. A. 1975. Use of remote sensing for mapping wetlands. Transportation Engineering Journal, American Society of Civil Engineers. 189-198.

Richardson, K. A. 1984. Wetlands classification using Landsat Thematic Mapper data unsupervised classification approach. Proceedings of the tenth international symposium on machine processing of remotely sensed data with special emphasis on Thematic Mapper data and geographic information systems; June 12-14, 1984; Purdue University. West Lafayette, Indiana: Purdue University. 154-158.

Ringrose, S., Matheson, W., and Boyle, T. 1988. Differentiation of ecological zones in the Okavango Delta, Botswana, by classification and contextual analyses of Landsat MSS data. Photogrammetric Engineering and Remote Sensing. 601-608.

Rochon, G., and Roksandic, M. 1981. Geologic application of Landsat imagery enhanced by topographic data. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 124-131.

Roller, N. E. G. 1977. Remote sensing of wetlands. Ann Arbor, Michigan: Environmental Research Institute of Michigan.

Roller, N. E. G. 1981. Strategies for information - directed wetlands. Proceedings of the seventh international symposium on machine processing of remotely sensed data with special emphasis on range, forest, and wetlands assessment; Purdue University. West Lafayette, Indiana: Purdue University. 230-239.

Rollet, B., and Damen, M. C. J. 1986. Photo-interpretation of wetland vegetation in the Lesser Antilles (Guadeloupe). Proceedings of the seventh ISPRS Commission symposium; Enschede. Balkema. 499-504.

Ronshagen, C. S. 1989. Breedlove Dennis & Assoc Inc, Orlando, FL., Carlson, G. L., Breedlove, B. W. Integrating CAD/GIS for environmental planning: a case study. Technical papers of the 1989 fall meeting of the ASPRS; September 17-21, 1989; Cleveland, Ohio. Falls Church, Virginia: ASPRS. 7-13.

Roque, C. R., Bina, R. T., Jara, R. S. et al. 1980. Application of Landsat data and selective aerial reconnaissance surveys to mangrove forest resource management in the Philippines. Proceedings of the fourteenth international symposium on remote sensing of environment; April 23-30, 1980; San Jose, Costa Rica. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1225-1226.

Rose, P. W., and Rosendahl, P. C. 1979. Landsat hydrobiological classification for and inland fresh water marsh within Everglades National Park. M. Deutsch, D. R. Wiesnet, and A. Rango, editors. Proceedings of the fifth annual William T. Pecora memorial symposium on remote sensing: satellite hydrology; June 10-15, 1979; Sioux Falls, South Dakota. Minneapolis, Minnesota: American Water Resources Association. 485-491.

Rosema, A., and Fiselier, J. L. 1990. Meteosat-based evapotranspiration and thermal inertia mapping for monitoring transgression in the Lake Chad Region and Niger Delta. International Journal of Remote Sensing. 11(5): 741-752.

Rousseau, J. 1984. Remote sensing applications for coastal/marine planning and management in developing countries. Proceedings of the eighteenth meeting of the Association of Island Marine Laboratories of the Caribbean; August 13, 1984; St. James, Trinidad. 3.

Rundquist, D. C. 1983. Wetland inventories of Nebraska's Sandhills. Resource report. Lincoln, Nebraska: University of Nebraska, Conservation and Survey Division. 9.

Rundquist, D. C., and Gilbert, M. C. 1979. Wetland mapping using Landsat. US Army Corps of Engineers remote sensing symposium; October 29-31, 1979; Reston, Virginia. 329-332.



- Rundquist, D. C., Lawson, M. P., Queen, L. P. et al. 1987. Relationship between summer-season rainfall events and lake-surface area. *Water Resources Bulletin*. 493-508.
- Ruth, B. E., Degner, J. D., and Brooks, H. K. 1980. Sanitary landfill site selection by remote sensing. *Transportation Engineering Journal*, American Society of Civil Engineers. 661-675.
- Ruzek, M., and Hoffer, R. 1985. Seasat and SIR-B: a comparison of a forest test site. *Proceedings of the IGARSS '85 symposium*; ; Amherst, Massachusetts. New York: IEEE. 579.
- Sadowski, F. G. 1981. Alternative approaches for utilizing Landsat data to address forest and range applications. *Proceedings of the seventh international symposium on machine processing of remotely sensed data*; Purdue University. West Lafayette, Indiana: Purdue University. 19.
- Salomonson, V. V. 1973. Water resources. *Proceedings of the symposium on significant results obtained from Earth Resources Technology Satellite-1*; March 5-9, 1973. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 57-69.
- Salomonson, V. V., and Rango, A. 1974. ERTS-1 applications in hydrology and water resources. *Journal of the American Water Works Association*. 168-172.
- Sasser, C. E., Dozier, M. D., Gosselink, J. G. et al. 1986. Spatial and temporal changes in Louisiana's Barataria Basin marshes, 1945-1980. *Environmental Management*. 10(5): 671-680.
- Satellites helping to solve down-to-earth civil engineering problems. 1975. *Civil Engineering (ASCE)*. 49-53.
- Sather-Blair, S., Linder, R. L., and Moore, D. G. 1980. Pheasant use of wetlands during the winter and application of Landsat imagery for assessing winter habitat (South Dakota). Brookings, South Dakota: South Dakota State University.
- Sattinger, I. J., and Dillman, R. D. 1973. Digital land use mapping in Oakland County, Michigan. *Proceedings of the symposium on significant results obtained from the Earth Resources Technology Satellite-1*; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 1047-1054.
- Scarpace, F. L., Quirk, B. K., Kiefer, R. W. et al. 1981. Wetland mapping from digitized aerial photography. *Photogrammetric Engineering and Remote Sensing*. 47(6): 829-838.

Seevers, P. M., Peterson, R. M., Mahoney, D. J. et al. 1975. A wetlands inventory of the state of Nebraska using ERTS-1 imagery. Remote sensing of earth resources: volume IV. Tullahoma, Tennessee: University of Tennessee. 281-292.

Sellman, B. 1973. Land resources survey for the state of Michigan. Proceedings of the symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 1083-1090.

Shacham, S., Chesters, G., and McLellan, H. 1984. Documentation of the data base: Wisconsin power plant impact study. Madison, Wisconsin: University of Wisconsin.

Shahrokhi, F., Dyer, E. B., and Anonymous. 1977. Application of Landsat data to wetland study and land use classification in West Tennessee. Proceedings of the 32nd annual meeting of the Soil Conservation Society of America; Richmond, Virginia. 117-119.

Sharma, R. C., and Bhargawa, G. P. 1988. Landsat imagery for mapping saline soils and wet lands in North-West India. International Journal of Remote Sensing. 1988.

Shaw, S. P., and Fredine, C. G. 1956. Wetlands of the United States: their extent and their value to waterfowl and other wildlife. Washington, DC: US Department of the Interior, Fish and Wildlife Service.

Shen, Y. 1980. Landforms and reclamation measures in the Three-Rivers Plain, Heilongjiang Province, China. Acta Geographica Sinica. 35: 126-136.

Sheng, Y. P., Hamilton, P., and Macdonald, K. B. 1980. Modeling sediment transport in a shallow lake. Proceedings of a workshop on wetland and estuarine processes and water quality modeling; June 18-20, 1979; New Orleans, Louisiana. New York: Plenum Publishing Corporation.

Shepherd, W. 1979. A study of Minnesota land and water resources using remote sensing: progress report January 1 - December 31, 1978. Washington, DC: National Aeronautics and Space Administration.

Sivertson, E. 1990. Remote sensing: a high tech tool for Virginia. Papers from the annual conference of the Urban & Regional Information Systems Association; Edmonton, Alberta. Washington, DC: URISA.

Slack, R. B., and Welch, R. 1980. Soil conservation service runoff curve number estimates from Landsat data. Water Resources Bulletin. 887-893.

Slater, F. M. 1984. The mineral contents of both peat and plants and their inter-relationships at Borth Bog, Wales. Proceedings of the seventh international peat congress; Dublin, Ireland. 450-467.

Smith, J. M. 1988. Landsat TM study of afforestation in Northern Scotland and its impact on breeding bird populations. Proceedings of the IGARSS '88 symposium; Edinburgh, UK. New York: IEEE. 1369-1370.

Sriplung, N. 1978. Thailand's littoral mudflats as interpreted from Landsat imagery. International Symposium on Remote Sensing of the Environment. 2045-2049.

Steffensen, R., and Smith, A. M. 1978. An analysis of the spatial and temporal distribution of surficial waters in the Minnedosa wetland district of Manitoba, Canada. Proceedings of the twelfth international symposium on remote sensing of environment; April 20, 1978; Quezon City, Phillippines. Ann Arbor, Michigan: Environmental Research Institute of Michigan.

Stewart, W. R., Carter, V., and Brooks, P. D. 1980. Inland (non-tidal) wetland mapping. Photogrammetric Engineering and Remote Sensing. 46(5): 617-628.

Still, D. A., and Shih, S. F. 1985. Using Landsat data to classify land use for assessing the basinwide runoff index. Water Resources Bulletin. 931-940.

Stoeckeler, E. G., Farrell, R. S., and Woodman, R. G. 1974. To develop a land use-peak runoff classification system for highway engineering purposes. August, Maine: Maine Department of Transportation.

Striffler, W. D., and Fitz, D. C. 1980. Applications of Remote Sensing in Hydrology. Colorado State University: Colorado Water Resources Research Institute.

Struve, H., and Kirk, W. L. 1980. Remote-sensing procedures for detecting and monitoring various activities regulated by the Mobile District: final report October 1976 - September 1978. Vicksburg, Mississippi: US Army Engineers Waterways Experiment Station.

Takahashi, H. 1981. A lineament enhancement technique for active fault analysis. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 103-112.

Terchunian, A., Klemas, V., Segovio, A. et al. 1986. Mangrove mapping in Ecuador: the impact of shrimp pond construction. Environmental Management. 10(3): 345-350.

Tessar, P. A., Hood, D. R., and Todd, W. J. 1975. The South Dakota cooperative land use effort: a state level remote sensing demonstration project. Proceedings of the NASA earth resources survey symposium; June 9-12, 1975. Houston, Texas: National Aeronautics and Space Administration. 1499-1523.

Thompson, D. E. 1972. Airborne remote sensing of Georgia tidal marshes. Operational remote sensing: an interactive seminar to evaluate current capabilities; February 1-4, 1972; Houston, Texas. Falls Church, Virginia: American Society of Photogrammetry. 126-139.

Thompson, M. D., and Dams, R. V. 1986. Remote sensing as a tool for Alberta agricultural wetlands drainage inventory. M. D. Thompson, and R. J. Brown, editors. Proceedings of the tenth Canadian symposium on remote sensing; May 5-8, 1986; Edmonton, Alberta. 829-840.

Tilton, E. L., III. 1981. Application of space remote sensing technology to living marine resources in coastal zones. Advances in earth oriented applications of space technology. 89-96.

Tilton, E. L., III. 1983. Information extraction from thematic mapper data. Proceedings of the 34th congress of the International Astronautical Federation; Budapest, Hungary. New York: AIAA.

Tiner, R. W. 1984. Wetlands of the United States: current status and recent trends. Washington, DC: National Wetlands Inventory, Fish and Wildlife Service, US Department of the Interior.

Tomlins, G. F., and Thomson, K. P. B. 1981. Toward an operational, satellite-based wetland monitoring program for the Fraser River estuary, British Columbia. Proceedings of the seventh Canadian symposium on remote sensing; Winnipeg, Manitoba. Ottawa, Ontario: Canadian Aeronautics & Space Institute. 74-82.

Turner, R. E. 1987. Aerial imagery interpretation of relationship between canal area and number of new ponds. Proceedings of the eighth annual Gulf of Mexico information transfer meeting; New Orleans, Louisiana. 196-198.

Ulanowicz, R. E. 1974. A survey for the use of remote sensing in the Chemical Bay region. Chesapeake Research Consortium.

The use of color infrared photography for wetlands mapping with special reference to shoreline and waterfowl habitat assessment project for the use of remote sensing in land use policy formulation. 1973. East Lansing, Michigan: Michigan State University.

Van Tries, B. J. 1973. An evaluation of space acquired data as a tool for management of wildlife habitat in Alaska. Proceedings of the symposium on significant results obtained from the Earth Resources Technology Satellite-1. National Aeronautics and Space Administration. 795-799.

Vande, C. J. R., Lathrop, R. G., and Lillesand, T. M. 1988. Significance of GIS and remote sensing technology in Great Lakes monitoring and resource management. The Great Lakes: living with North America's inland waters -- proceedings of a symposium. Bethesda, Maryland: American Water Resources Association. 155-161.

Wadsworth, J. R., Jr. 1983. Quantitative analysis of a subtle terrace bordering Okefenokee Swamp. Proceedings of the 32nd annual meeting, Southeastern Section, Geological Society of America; with the Southeast Section of the National Association of Geology Teachers and the Southeastern Section of the Paleontological Society; Tallahassee, Florida. Geological Society of America. 56.

Wadsworth, J. R. Jr., Brook, G. A., and Carver, R. E. 1983. Surface expression of heavily mantled interstratal karst bordering Okefenokee Swamp, Georgia. Technical papers of the 1983 annual meeting of the American Society of Photogrammetry; Washington, DC. Falls Church, Virginia: ASPRS. 463-470.

Wagner, T. W., and Fernandez, J. C. 1977. Application of Landsat data to the integrated economic development of Mindor, Phillippines. Proceedings of the eleventh international symposium on remote sensing of environment; April 25-29, 1977. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1375-1380.

Watson, E. K., and Van Ryswyk, A. L. 1981. Remote sensing applications for British Columbia wetlands using 35mm aerial photography. Proceedings of the seventh Canadian Symposium on remote sensing; Winnipeg, Manitoba. Ottawa: Canadian Aeronautics & Space Institute. 211-221.

Weaver, M. G., Cross, G. H., and Mead, R. A. 1980. Repetitive aerial photography for assessing marsh vegetation change. Technical papers of the American Society of Photogrammetry ACSM-ASP Convention; March 9-14, 1980; St. Louis, Missouri. Falls Church, Virginia: American Society of Photogrammetry. 395-409.

Wedler, E., and Kessler, R. 1981. Interpretation of vegetative cover in wetlands using four-channel SAR imagery. Technical papers of the 1981 ASP-ACSM convention; February 22-27, 1981; Washington, DC. 111-125.

Weismuller, R. A., Kristof, S. J., Scholz, D. K. et al. 1977. Evaluation of change detection techniques for monitoring coastal zone environments. Proceedings of the eleventh international symposium on remote sensing of environment; April 25-29, 1977. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 1129-1238.

Welch, R., Lo, H. C., and Pannell, C. W. 1979. Mapping China's new agricultural lands. Photogrammetric Engineering and Remote Sensing. 45(9): 1211-1228.

Welch, R., Remillard, M. M., and Slack, R. B. 1988. Remote sensing and geographic information system techniques for aquatic resource evaluation. *Photogrammetric Engineering and Remote Sensing*. 54(2): 177-185.

Welch, R. A., and Hsu, A. Y. 1981. Statistical tests and interactive displays of Landsat classification accuracies. *Proceedings of the seventh international symposium on machine processing of remotely sensed data*; Purdue University. West Lafayette, Indiana: Purdue University. 91-92.

Werth, L. F., and Meyer, M. P. 1979. A comparison of remote sensing techniques for Minnesota wetlands classification. M. Deutsch, D. R. Wiesnet, and A. Rango, editors. *Proceedings of the fifth annual William T. Pecora memorial symposium on remote sensing: satellite hydrology*; June 10-15, 1979; Sioux Falls, South Dakota. Minneapolis, Minnesota: American Water Resources Association. 492-498.

Wharton, S., Ormsby, J., Slomonson, V. et al. 1984. Landsat Thematic Mapper studies of land cover spatial variability related to hydrology. *Remote sensing from satellites*. National Aeronautics and Space Administration. 217-226.

Whitehurst, C. A., Blanchard, W. A., and Doiron, L. N. The use of color infrared imagery for the study of marsh buggy tracks. *Photogrammetric Engineering and Remote Sensing*. 1049-1050.

Whitehurst, C. A., and Doiron, L. N. 1974. Geomorphic processes active in the Southwestern Louisiana Canal, Lafourche Parish, Louisiana. Baton Rouge, Louisiana: Louisiana State University, Division of Engineering Research.

Whitehurst, C. A. 1976. Interpretation of remote sensing data in the Bayou Lafourche delta of South Louisiana. Baton Rouge, Louisiana: Louisiana State University.

Wicker, K. M., and Meyer-Arendt, K. J. 1981. Utilization of remote sensing in wetland management. B. F. Richason, Jr., editor. *Proceedings of the Pecora VII symposium -- remote sensing: an input to geographic information systems in the 1980's*; October 18-21, 1981; Sioux Falls, South Dakota. 217-229.

Wickware, G. M., and MacEwan, A. 1980. Wetland mapping and environmental monitoring using digital Landsat data. *Proceedings of the fifth Canadian symposium on remote sensing*; August, 1978; Victoria, British Columbia. Ottawa: Canadian Aeronautics and Space Institute. 150-157.

Wickware, G. M., and Howarth, P. J. 1981. Change detection in the Peace-Athabasca Delta using digital Landsat data. *Remote Sensing of Environment*. 11: 9-25.

Wilcox, D. A. 1987. A model for assessing interdisciplinary approaches to wetland research. *Wetlands: The Journal of the Society of Wetland Scientists*. 7: 39-49.

Wilkie, D. S., and Larson, J. S. 1980. Municipal wells, land development and freshwater wetlands in Massachusetts. Amherst, Massachusetts: University of Massachusetts, Water Resources Research Center.

Williamson, A. N. 1981. Landsat Data for Regulatory Permit Monitoring. Proceedings of the fifth annual William T. Pecora memorial symposium on remote sensing; June 10-15, 1979; Sioux Falls, South Dakota. 270-277.

Williams, D. R., Balogh, M. E., and Foresman, T. W. 1986. Wetlands: a perspective for mapping, monitoring, and modeling. Technical papers of the 1986 fall technical meeting of the American Society of Photogrammetry and Remote Sensing; Anchorage, Alaska. Falls Church, Virginia: ASPRS. 379-380.

Williams, R. S., Jr. 1973. Coastal and submarine features on MSS imagery of southeastern Massachusetts: comparison with conventional maps. Proceedings of the symposium on significant results obtained from the Earth Resources Technology Satellite-1; March 5-9, 1973; New Carrollton, Maryland. Greenbelt, Maryland: Goddard Space Flight Center, National Aeronautics and Space Administration. 1413-1422.

Wobber, F. J. 1975. Remote sensing trends in state resources management. *Photogrammetric Engineering and Remote Sensing*. 41(6): 735-740.

Wood, B. L. 1983. Wetland mapping in Colusa county, California. Proceedings of the Society of American Foresters international renewable resource inventories for monitoring conference; August 15-19, 1983; Corvallis, Oregon. 345-349.

Wood, B. L., and Beck, L. H. 1982. Geographic information system for Colusa County, California. Proceedings of the eighth international symposium on machine processing of remotely sensed data with special emphasis on crop inventory and monitoring; Purdue University. West Lafayette, Indiana: Purdue University. 374-401.

Wood, B., and Beck, L. 1986. Remote sensing of wetland plant stress. Proceedings of IGARSS '86 symposium; September 8-11, 1986; Zurich, Switzerland. 1383-1386.

Woodzick, T. L., and Maxwell, E. L. 1977. Multidate mapping of mosquito habitat. Proceedings of the eleventh international symposium on remote sensing of environment; April 25-29, 1977. Ann Arbor, Michigan: Environmental Research Institute of Michigan. 979-989.

Work, E. A., Jr., Gilmer, D. S., and Klett, A. T. 1973. Preliminary evaluation of ERTS-1 for determining numbers and distribution of prairie ponds and lakes. Proceedings of the symposium on significant results obtained from the Earth Resources Technology Satellite-1. National Aeronautics and Space Administration. 801-808.

Wu, S. T. 1980. An improvement in land cover classification achieved by merging microwave data with Landsat Multispectral Scanner data. Technical papers of the 1980 ACSM-ASP convention; March 9-14, 1980; St. Louis, Missouri. 293-309.

Wynn, S. L., and Kiefer, R. W. 1977. Monitoring vegetation changes in a large impacted wetland using quantitative field data and quantitative remote sensing data. Conference proceedings of the fourth joint conference on sensing of environmental pollutants; November 6-11, 1977; New Orleans, Louisiana. 178-180.

Wynn, S. L., and Kiefer, R. W. 1985. Aerial photography and ground verification at power plant sites: Wisconsin power plant impact study. Madison, Wisconsin: University of Wisconsin.

Xu, S. R., Li, C. C., Flint, N. K. 1981. Extraction of geological lineaments from Landsat imagery by using local variance and gradient trend. Proceedings of the seventh international symposium on machine processing of remotely sensed data; Purdue University. West Lafayette, Indiana: Purdue University. 113-123.

Yeargen, M. E. 1984. Remote sensing, sedimentation and vegetation distribution within the coastal wetlands, Eastern St. Louis Bay, Mississippi. Brunton, G. D. Mississippi - Alabama Sea Grant Consortium report on modern and ancient sedimentary process and response within the Alabama linear barrier coastal system. Mississippi - Alabama Sea Grant Consortium. 142-152.

Zinn, J. A., and Copeland C. Wetland management. Washington, DC: Congressional Research Service, The Library of Congress.



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